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Europejskie gatunki Cnephasiini (Lepidoptera, Tortricidae)

Европейские виды Cnephasiini (Lepidoptera, Tortricidae)

European Species of Cnephasiini (Lepidoptera, Tortricidae)

[Pl. XVII—LXVII]

The present work comprises my further study on Cnephasiini, but especially on Cnephasia Curt. s. l. I should like to present hear the critical review of the data regarding the European species of the group discussed, as well as my additions to them. Basing on these facts I try to solve some diffcult questions concerning the taxonomy of Cnephasiini and give a system of this group based partially on that of RÉAL and OBRAZTSOV, as well as on my own view on this matter. Many borrowed materials, my own collection and the collection of the Institute of Zoology of the Polish Academy of Science in Kraków and Warszawa (I. Z. P. A. S.) made this work possible. This material includes nearly all European species of Cnephasiini. So, I have obtained for my study valuable materials from Dr. R. Schönmann of Naturhistorisches Museum in Vienna, Prof. Dr. M. E. HERING and Dr. H. J. HANNEMANN of Zoologisches Museum der Humboldt Universität in Berlin, Dr. P. E. L. VIETTE of Museum de Histoire Naturelle in Paris, Dr. M. TERREAU and Dr. P. RÉAL of Société Linnéenne de Lyon, Dr. L. Gozmány of Magyar Nemzeti Muzeum in Budapest, late Dr. A. Fiori of Bologna, Dr. H. G. Amsel of Karlsruhe, Dr. E. Jäckh of Übersee Museum in Bremen, Dr. K. Sattler of Flensburg, Dr. J. Klimesch of Linz a/Donau, Dr. S. Toll of Katowice, Dr. S. Błeszyński of Kraków. It is a pleasure for me to thank here all these entomologists beacuse were it not for their help this work could never be completed.

#### GENERAL PART

#### Historical Review

The first species belonging to the tribe Cnephasiini was described by LINNAEUS in 1758, and was placed in the Phalaena Tortrix [Eulia ministrana (L.)], but the genus Eulia was established by HÜBNER in 1825. During the further several years only a few species of Cnephasiini have been described. In 1759 Clerck described Phalaena Tinea congelatella and Phalaena argentana, and in 1762 Scopoli gave the description of Phalaena osseana. The next species of Cnephasiini have been described: Pyralis schumacherana Fabricius (1787). Phalaena Tortrix punctulana Denis & Schiffermüller (1776) and Tortrix penziana Thunberg (1791). In the first half of the XIX century many works have been published. which contain descriptions of various species of Cnephasiini. CURTIS, in the British Entomology (vol. 3), published in 1826, established the genus Cnephasia with 10 species under it.

It is doubtless that only since 1910 the studying of genitalia of *Cnephasiini* straightened out the very difficult systematical problems in this rather complicated and confused group. Kennel (1910) only in few cases mentioned the genital characters of the species. The first work based only on the structure of genitalia was the publication of Pierce & Metcalfe (1922). In 1936, Kremky and Adamczewski published two papers which contain the genital characters of the present genera *Eana* Curt. and *Cnephasia* Curt. In the past several years, many authors solved some difficult problems in *Cnephasiini*. These authors discussed the relationships between the species and genera, and established various, more or less acceptable systems.

#### Taxonomy

In 1796-1799 HÜBNER placed the species of recent Cnephasiini under three groups, i. e. Tortrices, Nuctuae and Genuinae. and in 1811-1813 in the group Tortrices Pyralidoides. In 1825 the same writer separated Cnephasiini into following groups: Olethreutae (part.), Corticae (part.), Umbratiles (part.), Dubiae, Vulgares (part.), Agapetae (part.) and Flavae (part.). FRÖLICH in 1828 placed Cnephasiini partially in Metallicae, STEPHENS (1829) in Yponomeutidae. In the continuation of HÜBNER'S Sammlung Europäischer Schmetterlinge by Geyer, Cnephasiini are included partially in Tortricae Verae. Guenée in 1845 included the group in question in Sciaphilidi, Grapholithidi (part.), Aphelidi and Epigraphidi (part.). In 1854 and 1859 STAINTON published two works. In the first of them, Cnephasiini were placed in Exapatidae and in the second one in Tortricidae (part.), Cnephasidae, Anchyloperiidae (part.) Stigmonotidae (part.) and Tortricolidae. MEYRICK (1913) placed Cnephasiini under two group of Tortricidae. In 1922 PIERCE & METCALFE established for Cnephasiini a separate systematical group and gave a system based on their genitalia. In 1940 Busck considered Cnephasiini as a subfamily, and in 1941 Diakonoff established the name Cnephasiades for this group. In 1949 Obraztsov considered Cnephasiini as a tribus. In order to explain clearly the problem of Cnephasiini I will characterize shortly some of the above mentioned systems, as well as the system of Réal (1952).

RÉAL discussed only genus Cnephasia Curt. in which he also included genera later separated. In this work Cnephasia Curt. has been divided into several subgenera as follows: Anoplocnephasia Réal., Ablabia Hbn., Hypostephanuntia Réal, Neophodesme Hbn., Trachysmia Guen., Sphaleroptera Guen., Neosphaleroptera Réal., Cnephasiella Adamcz., Brachycnephasia Adamcz., and Cnephasia Curt. s. str. Later, subgenus Neosphaleroptera Réal, similarly as Trachysmia Guen. has been distinguished as a distinct genus. In 1957 I placed under Cnephasiini the following genera: Trachysmia Guen., Doloploca Hbn., Exapate Hbn., Tortricodes Guen. and Cnephasia Curt. The last I discussed in the interpretation of Réal.

Obraztsov (1956) accepted the following system: Synochoneura OBR., Olindia GUEN., Isotrias MEYR., Propiromorpha OBR., Eulia HBN., Cnephasia Curt., Cnephasiella Adamcz., Palpocrinia Kenn., Oxypteron Stgr., Tortricodes Guen.. Exapate HBN., Neosphaleroptera RÉAL, Eana BILLB. Doloploca HBN., Euledereria FERN., and Trachysmia GUEN. The writer divided Eana BILLB. into two subgenera: Ablabia HBN. and Eana Billb. s. str. and placed in them such species as Cnephasia tyrrhaenica Ams. and Oxypteron wertheimsteini (RBL.). Doubtlessly these species do not belong to Ablabia HBN., but to quite different genera, what is evident by their genitalia of both sexes. Besides, the venation in the wings Oxunteron wertheimsteini (RBL.) differs from that of Eana BILLB. s. str. The structure of labial palps in Cnephasia tyrrhaenica Ams. is typical for Cnephasia Curt. The division of Eana BILLB. into subgenera may be also questionable. Eana argentana (CL.) and E. osseana (Scop.) show the distinct differences. the remaining four species do not differ, however, from the members of the second subgenus. The distinctness of Cnephasiella Adamcz, is rather doubtful, because of the slight differences between its members and the representatives of Cnephasia Curt. The species of Cnephasiella Curt. differ from the members of the former genus only by the structure of the ovipositor in their female genitalia.

RÉAL was right establishing subgenus Neosphaleroptera RÉAL and dividing genera Olindia GUEN. and Isotrias MEYR.

I established my own system on ground of critical study of the three above mentioned ones. I consider genital characters as the most important because of their slight variability; I also took under consideration, however, such features as venation of the wings, structure of proboscium and labial palps, ecology, as well as the geographical distribution of the species. This system doubtlessly contains some errors which will possibly be corrected after the discovery of new species.

Unfortunately I could not obtain for my study the species of *Palpocrinia* Kenn. and several species of other genera, and their genitalia are unknown to me.

At first I will discuss the systematic position of *Cnephasiini* in relation to other *Tortricinae*. It is a rather compact group

and closely related to the remaining tribes of Tortricinae. The representatives of Cnephasiini resemble mostly the members of Archipsini as regard to the species of such genera as Synochoneura Obr., Olindia Guen., Isotrias Meyr., Eulia HBN. and Propiromorpha OBR. This similarity occurs in the external character, as well as in the structure of genitalia of both sexes. Costal fold in the forewing always absent. This is very characteristic for some genera of other subfamilies of Tortricidae. A small cavity in one of the basal joints of the antennae always lacking. In forewing  $r_4$  and  $r_5$  run always separately. Some species of the above mentioned genera resemble somewhat the members of Archipsini by their genitalia. Cornuti in the aedeagus lacking except in Synochoneura OBR. Labia rather of a characteristic structure, flat and broad. Only a small number of the species have narrow labia similar to those of Archipsini. In the Tortricini labia sometimes also wide, as in Tortrix L. Signum characteristic, narrow and long, in the shape of a drop or a stripe consisting of minute spikes. Only in Isotrias MEYR. signum different. Sometimes signum strongly reduced or even atrophied (Exapate HBN.), and only in Eulia HBN. it covers the major part of bursa copulatrix. In Archipsini signum nearly always funnel-shaped or plate-like. In Tortricini except in Tortrix (Aleimma) loeflingiana (L.) signum consisting also of minute spikes fixed on a plate it is, however, very short and rosette-like. The principal difference in the structure of male genital armatures between Cnephasiini and Tortricini is the lack of uncus in the latter group, but some differences in the character of sacculus, valva, aedeagus, anellus and socii may be observed. In the Cnephasiini cornuti in the aedeagus absent and they occur in the members of Tortricini.

In the tribus *Cnephasiini* two rather numerous and related to each other groups of genera may be distinguished. Into the first of them I include *Olindia* Guen., *Isotrias* Meyr., *Eulia* Hbn. and *Propiromorpha* Obr., and to the second one *Cnephasia* Curt., *Oxypteron* Stgr., *Tortricodes* Guen., *Neosphaleroptera* Réal, *Eana* Billb., *Doloploca* Hbn., *Exapate* Hbn., *Euledereria* Fern. and *Trachysmia* Guen. Genera *Synochoneura* Obr. and *Palpocrinia* Kenn. are characteristic by their

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peculiar systematical position. Synochoneura OBR. is rather related to the first of the above mentioned groups of genera. It is somewhat allied to Archipsini and may be considered as a joint between Cnephasiini and Archipsini. Synochoneura OBR. differs in principal from other genera of Cnephasiini by the structure of its male genital armature, female genitalia having, however, rather allied to those of Olindia Guen. and Isotrias Meyr. It is a rather difficult problem to place the second of the above mentioned two genera, namely Palpocrinia Kenn., since I did not examine its genitalia. I placed it provisionally between the two above mentioned groups of genera. Obraztsov (1956) placed it between Cnephasiella Adamcz. and Oxypteron Stgr.

In the first group of genera Olindia Guen. and Isotrias MEYR. are closely related to each other. The character of valva and sacculus in male genital armature and the structure of female genitalia similar in the both sexes. There is a great similarity in the external character between both genera, the difference being, however, that in Isotrias MEYR. in the secondaries rr and  $m_1$  are separated and in Olindia Guen. they are variable in their course, and frequently short stalked. Eulia HBN. and Propiromorpha OBR. are related to each other nearly as to the subgroup Olindia Guen. — Isotrias Meyr. Eulia HBN. comes near Isotrias MEYR. and Olindia GUEN. as is shown by the character of valva, sacculus and uncus in the male genital armature and the structure of the female genitalia. Propiromorpha OBR. differs considerably by its genitalia from Eulia HBN., particularly by the females. Signa in the both genera quite different from each other. Labia narrow in the all of genera of the first group.

The second-group is more numerous. It is not quite homogenous, but has sufficient common characters to be regarded as a rather natural unit. Only *Trachysmia* Guen. seems to be less related to other genera of the group in question. Some elements of genitalia are somewhat variable. Sacculus occasionally of uniform character in the sphere of one genus, it is, however, variable in *Cnephasia* Curt. and *Oxypteron* Stgr. Females of *Cnephasiella* Adamcz. differ from those of other subgenera of *Cnephasia* Curt. by their narrow labia, this

character should be considered, however, only as a subgeneric one, as the character of habitus and many genital features show. In the other genera of the second group labia wide except in Trachysmia Guen., the members of which have narrow labia. I placed Oxypteron STGR. immediately after Cnephasia Curt., the structure of their female genitalia is, however, somewhat different. The structure of the male genital armature of Oxypteron Stgr. is strongly allied to that of some species of Cnephasia Curt., but gnathos in Oxypteron Stgr. is weakly sclerotized, and aedeagus has a somewhat different shape. The specific differences in Oxypteron Stgr. are rather great. Tortricodes Guen. is rather related to Oxypteron Stgr. having. however, more heavily sclerotized gnathos. The shape of valva similar as in Oxypteron STGR. Female genitalia of a rather peculiar character. In the both above mentioned genera  $m_3$  in the hindwing lacking. Reduction of proboscium, a common feature for the members of Tortricodes Guen. as well as for Oxypteron STGR., seems to be not pointing out to the relationship of these genera. It may be caused by the similar time of appearance of the moths (early spring and autumn). Such a reduction of proboscium occurs also in the other groups of Lepidoptera. Genus Neosphaleroptera Réal has a separate systematical position by its structure of female genitalia. differing from that of other genera. The genitalia of this genus point out to a strong reltionship to the genera of the second group. Eana BILLB. presents a genus closely related to the former one having, however, lamella subgenitalis not funnel-shaped and with elongated lateral parts, broad introitus vaginae forming with lamella antevaginalis a cavity surrounding ostium bursae; signum occurs. Male genital armature of the members of Eana BILLB. rather similar to that of the representatives of Neosphaleroptera Réal. Female genitalia of Doloploca HBN., Exapate HBN. and Euledereria FERN. are of a similar structure, but their male genital armatures differ between each other. In Doloploca HBN. and Exapate HBN. tegumen broad and the base of uncus massive, the features rather common with Eana BILLB. Transtilla clothed with minute spines, gnathos in Doloploca HBN. of a different shape than that of Exapate HBN. The shape of lamella subgenitalis in Doloploca HBN. differs from that of Exapate HBN. and in Exapate HBN. signum is lacking. Euledereria FERN. has many common characters with the two former genera, tegumen narrower than in these genera, signum lacking similarly as in Exapate HBN., lamella subgenitalis of a rather similar shape as in Doloploca HBN. The venation of the wings resembles that of Exapate HBN. In the hindwing rr and  $m_1$  of a various course. Secondaries of females in both genera atrophied. Trachysmia GUEN. is a genus rather less related to the former ones. Female genitalia rather different from those of the previous genera, and the male genital armature somewhat more resembling that of these genera. Rr and  $m_1$  of a similar course in the former two genera and  $m_3$  and  $cu_1$  run similarly as in Euledereria FERN.

The systematics of the European species of *Cnephasiini* takes the following outline in my arrangement:

#### Genus: Olindia GUEN.

1. Olindia schumacherana (FABR.)

#### Genus: Isotrias MEYR

- 1. Isotrias rectifasciana (HAW.).
- 2. Isotrias hybridana (HBN.).
- 3. Isotrias stramentana (GUEN.).
- 4. Isotrias joannisana (Tur.).

#### Genus: Eulia HBN.

1. Eulia ministrana (L.).

## Genus: Propiromorpha OBR.

1. Propiromorpha rhodophana (H.-S.).

Genus: Cnephasia Curt.

Subgenus: Cnephasiella ADAMCZ.

- $1. \ \ Cnephasia \ \ (Cnephasiella) \ \ abrasana \ \ (Dup.)$
- 2. Cnephasia (Cnephasiella) incertana (TREIT.)

#### Subgenus: Cnephasia Curt. s. str.

- 1. Cnephasia (Cnephasia) cinareana Chrét.
- 2. Cnephasia (Cnephasia) fulturana Rebel
- 3. Cnephasia (Cnephasia) sareptana sp. n.
- 4. Cnephasia (Cnephasia) crassifasciana Joann.
- 5. Cnephasia (Cnephasia) alfacarana RAZ.
- 6. Cnephasia (Cnephasia) cupressivorana (STGR.)
- 7. Cnephasia (Cnephasia) communana (H.-S.)
- 8. Cnephasia (Cnephasia) parnassicola RAZ.
- 9. Cnephasia (Cnephasia) laetana (STGR.)
- 10. Cnephasia (Cnephasia) alticolana (H.-S.)
- 10. Onephasia (Onephasia) allicolana (H.-8.)
- 11. Cnephasia (Cnephasia) virgaureana (TREIT.)
- 12. Cnephasia (Cnephasia) microstrigana RAZ.
- 13. Cnephasia (Cnephasia) bleszyńskii Toll
- 14. Cnephasia (Cnephasia) pascuana (HBN.)
- 15. Cnephasia (Cnephasia) genitalana P. & M.
- 16. Cnephasia (Cnephasia) chrysantheana (Dup.)
- 17. Cnephasia (Cnephasia) hispanica OBR.
- 18. Cnephasia (Cnephasia) octomaculana Steph.
- 19. Cnephasia (Cnephasia) conspersana Dougl.
- 20. Cnephasia (Cnephasia) tolli RAZ.
- 21. Cnephasia (Cnephasia) heringi RAZ.
- 22. Cnephasia (Cnephasia) pumicana (ZELL.)
- 23. Cnephasia (Cnephasia) hellenica Obr.
- 24. Cnephasia (Cnephasia) longana (HAW.)
- 25. Cnephasia (Cnephasia) klimeschi RAZ.
- 26. Cnephasia (Cnephasia) bizensis Réal.
- 27. Cnephasia (Cnephasia) taurominana RAZ.
- 28. Cnephasia (Cnephasia) gueneana (Dup.).
- 29. Cnephasia (Cnephasia) nuraghana Ams.
- 30. Cnephasia (Cnephasia) fragosana (ZELL.)
- 31. Cnephasia (Cnephasia) semibrunneata (Joann.)
- 32. Cnephasia (Cnephasia) tyrrhaenica Ams.

#### Subgenus: Anoplocnephasia RÉAL

- 1. Cnephasia (Anoplocnephasia) heinemanni OBR.
- 2. Cnephasia (Anoplocnephasia) minima sp. n.
- 3. Cnephasia (Anoplocnephasia) sedana (Const.)
- 4. Cnephasia (Anoplocnephasia) orientana (ALPH.)

#### Genus: Oxypteron STGR.

- 1. Oxypteron exiguanum (LAH.)
- 2. Oxypteron politum (WALS.)
- 3. Oxypteron impar STGR.
- 4. Oxypteron wertheimsteini (RBL.)

#### Genus: Tortricodes GUEN.

- 1. Tortricodes violellus RAZ.
- 2. Tortricodes tortricella (HBN.)

## Genus: Neosphaleroptera Réal

1. Neosphaleroptera nubilana (HAW.)

#### Genus: Eana BILLB

#### Subgenus: Ablabia HBN.

- 1. Eana (Ablabia) argentana (CLERCK)
- 2. Eana (Ablabia) osseana (Scop.)

#### Subgenus: Eana BILLB. s. str.

- 1. Eana (Eana) rielana (RÉAL)
- 2. Eana (Eana) hungariae RAZ.
- 3. Eana (Eana) canescana (GUEN.)
- 4. Eana (Eana) pyrenaica (Toll)
- 5. Eana (Eana) nervana (JOANN.)
- o. Hana (Hana) nortana (BOAM).
- 6. Eana (Eana) italica (OBR.)
- 7. Eana (Eana) cottiana (CHRÉT.)
- 8. Eana (Eana) penziana (THNBG.)
- 9. Eana (Eana) viridescens REB.
- 10. Eana (Eana) incanana (Steph.)
- 11. Eana (Eana) nevadensis (REB.)
- 12. Eana (Eana) joannisi (SCHAW.)
- 13. Eana (Eana) derivana (LAH.)
- 14. Eana (Eana) incognitana sp. n.

- 15. Eana (Eana) jäckhi sp. n.
- 16. Eana (Eana) rundiapicana sp. n.
- 17. Eana (Eana) herzegovinae sp. n.
- 18. Eana (Eana) cyanescana (RÉAL)
- 19. Eana (Eana) clercana (JOANN.)
- 20. Eana (Eana) legrandi (RÉAL)
- 21. Eana (Eana) viardi (RÉAL)
- 22. Eana (Eana) rastrata (Meyr.)

#### Genus: Doloploca HBN.

- 1. Doloploca punctulana (Schiff. & Den.)
- 2. Doloploca schawerdai Reb.

#### Genus: Exapate HBN.

- 1. Exapate congelatella (CLERCK)
- 2. Exapate duratella HEYD.

#### Genus: Euledereria FERN.

1. Euledereria alpicolana (FRÖL.)

## Genus: Trachysmia GUEN.

1. Trachysmia rigana (Sodoff.)

#### External anatomy

The Tortricidae included in the tribus Cnephasiini are medium or rather small in size. Head generally clothed with considerably short-scales or hair. The scales of face are sometimes shorter than on the other parts of head. In some genera on occiput there are much longer scales. Labial palps of medial size somewhat extending beyond the head. In Tortricodes Guen. labial palps are short and nearly straight, and in Eana Billb. they are long and upwardly curved. Basal

joint short, variable in its width, covered with rather short scales; middle joint very heavily clothed and widened by scales, long, often upwardly curved, in Tortricodes Guen. and Neosphaleroptera Réal. nearly of equal width and in Euledereria Fern. or Trachysmia Guen. considerably widened apically. Apical joint short, its width variable, covered with rather short scales, sometimes, as in Trachysmia Guen. concealed by the scales of middle joint. Proboscium either fully developed, or reduced or atrophied as in Tortricodes GUEN., Exapate HBN. and others. Antennae fairly long clothed with rigid short hairs and scales. In females hairs smaller, more scattered and sometimes less visible than in males. Basal joint of antenna broad, massive, further ones tapering and narrowed at sutures. In Oxupteron STGR, the major part of joints narrowed basally and provided with a single small thorn-shaped process terminally. The size of the latter varies according to the part of antenna. Apical joint cylindrical, tipped with extending thorn. Such a termination of the apical joint of antenna occurs also in some other genera. In the major part of genera a cluster of hairs on the thorax, lacking in . some cases, however, such as in Synochoneura OBR. Abdomen smooth without the features of a greater systematical value. Wings elongated, primaries frequently lanceolate, apex acuminate or rounded. Costal margin straight or arched, termen more or less oblique. Wings most frequently expanding outwardly. Secondaries trapezoidal or rounded, about as wide as the primaries, apex sometimes produced. Sexual dimorphism sometimes very distinct, it is presented by the size and colour of the wings, as well as by their shape. The females in some genera (e. g. Oxypteron STGR.) have the primaries less expanding outwardly, sometimes considerably narrower and more acuminate apically than the males. In Euledereria FERN. female primaries considerably narrower and more pointed apically than the male ones. Secondaries in this genus more reduced, very narrow. The process of reduction of the wings is represented by Exapate HBN. the females of which have the primaries small and narrow, lanceolate. Their costa clothed minutely with hair. Secondaries almost completely atrophied, resembling halterae in Diptera. — Venation: in some genera not

uniform. In such species as Olindia schumacherana (F.) or Cnephasia chrysantheana (Dup.) venation variable. Forewing: nearly all the veins run separately.  $R_4$  and  $r_5$  separate. The abscissas between individual veins present the characteristic features for some genera. Sc straight or curved.  $R_1$  from medial cell about half of its upper edge. The abscissa  $r_1-r_2$ greater than the abscissas between other branches of radius.  $R_4$  and  $r_5$  surrounding alar apex, or touching it. The branches of mediana frequently rather strongly approximated to each other at the medial cell.  $M_1$  sometimes parallel to  $m_2$ .  $Cu_1$ from inner angle of medial cell. Two veins, sometimes strongly atrophied, inside the medial cell. In Euledereria Fern. these veins absent, or in some cases there occurs only one of them, namely the inner one. A, frequently partially reduced.  $A_{2+3}$  long and distinct. Hindwing: some veins stalked. Se sometimes very near costa, straight or curved. The course of rr and  $m_1$  various, variable in the genera or even in the individual species. They are separated from each other and depart from medial cell near each other, from one point or are stalked.  $M_2$  more remote from  $m_1$  than from  $m_3$ .  $M_3$  sometimes lacking as in Tortricodes GUEN. and Oxypteron STGR.  $M_3$  and  $cu_1$  in some genera always separate, and in others of a variable course. Cu, usually from beyond half of the inner edge of medial cell. Costal fold always absent. Venation in the females with atrophied wings: in Euledereria Fern. venation of the primaries similar as in the males, but the veins are shorter; in the secondaries rr and  $m_1$  fused on a long distance,  $m_2$  rather long,  $m_3$  and  $cu_1$  short and stalked,  $cu_2$  very short, the remaining veins atrophied. In Exapate HBN, the veins occur only in the primaries, sometimes some branches of radius and mediana also absent. Primaries compactly scaled, the scales less numerous than in Tortricini, rarely coarse. Pattern typical for Tortricinae. A spot in the basal area of the primaries; it has sometimes form of a band because of reduction of its inner part. Such a band occurs frequently in the members of Cnephasia Curt. or Eana Billb. A second band in the middle area, it is sometimes once or twice interrupted or narrowed. A terminal (outer) spot in the apical area, and a second one or stripe at the termen. Sometimes

a row of dark specks at the termen, and along the margins of the wings, most frequently at the costal margin between the medial band and alar apex. The components of the pattern in the outer area sometimes amalgamated with each other. Outer spot and medial band rather rarely fused with each other as in some specimens of Cnephasia gueneana (Dup.). All components of the pattern have a tendency to reduction and frequently there occur unicoloured specimens. Often a transversal dark stripping. A few number of species are uniformly coloured as Eana argentana (CL.). Secondaries usually unicolorous, frequently darkened in the apical area and along the peripheries. In Propiromorpha rhodophana (H.-S.) secondaries transversally stripped with darker. Fringes most frequently concolorous with the ground. Head and thorax rather concolorous with the pattern of the primaries. The features in the genitalia somewhat variable, similarly as the characters of external appearance. Male genital armatures conspicuously more heterogeneous than the female ones. Valva well developed, sometimes somewhat deformed by the sacculus. In Eulia HBN, and allied genera valva broad, ellipsoidal or trapezoidal. In Cnephasia Curt. valva is narrow. In Trachysmia GUEN. or Doloploca HBN. valva broad basally and strongly narrowed outwardly. Sacculus of various structure, sometimes it occurs only as a heavily sclerotized vetral edge of valva. In other cases it forms a distinct heavily sclerotized list with a separate tip on the ventral edge of valva. Tegumen broad, in Exapate HBN, it is broader than in the typical cases, and in Trachysmia Guen, considerably narrower than in these cases. The base of uncus most frequently broad, sometimes covered with minute bristles (Eana Billb., Doloploca Hbn.), it is, however, narrow in Cnephasia Curt. Gnathos more or less sclerotized, in Tortricodes GUEN. heavily, and in Oxypteron STGR. partly weakly and partly heavily sclerotized. In many cases gnathos tipped with a plate (Cnephasia Curt.), or distal part of gnathos clothed with minute thorns. In Olindia Guen. the arms of gnathos connected with a transparent membrane. Socii sometimes extremely small (Olindia Guen.), occasionally big and broad (Eana BILLB., Doloploca HBN.), hanging rather sparely. Transtilla of various structure, presents a narrow

weakly sclerotized piece, sometimes broad and clothed minutely with bristles as in Eana BILLB. In Tortricodes GUEN. transtilla lacking. Aedeagus usually long, sometimes dentated. serrated or provided with thorns, rarely with cornuti in vesica (Synochoneura OBR.). It is attached to the anellus-plate with a narrow, more or less long connecting-piece. In some genera the eight abdominal tergite changed into mensis dorsalis. It is heavily sclerotized and arched in Olindia GUEN. (pl. XXXIII. fig. 129), and less sclerotized in Isotrias MEYR. In Euledereria FERN. eight tergite is flat. Female genitalia: ovipositor of a different structure than in other Tortricidae. Labia broad. rarely elongate (Eulia HBN., Euledereria FERN.), sometimes fused with each other. On the broad labia there occur two kinds of hairs: one of equal width and the other tipped with swellings. Gonapophyses posteriores longer than the anteriores. The latter most frequently well developed, broad, strengthened with the heavily sclerotized lists running from the places of attaching of gonapophyses anteriores. The degree of sclerotization of lamella subgenitalis variable. In Tortricodes Guen. it is heavily selerotized and in Doloploca HBN. the selerotization is weak. Lamella antevaginalis flat, more or less sclerotized, rarely deepened, bowl-shaped (Neosphaleroptera RÉAL). The shape of lamella antevaginalis and its size various. In the members of Cnephasia Curt. it is broad, simicircular, and in the representatives of Eana BILLB. it has narrow and elongated ends. Ostium bursae sometimes very broad, roundish, in Eana BILLB. covered from the side of introitus vaginae. The latter more or less sclerotized, usually broader than the ductus bursae. Ductus bursae sometimes very long as in Cnephasia tyrrhaenica Ams. It is usually equally sclerotized, only in a few cases heavily sclerotized at places (as in Euledereria Fern.). Bursa copulatrix of various size, signum either present or absent. It consists most frequently of many minute spikes arranged in a stripe or grouped drop-like. In Isotrias MEYR. signum of a peculiar shape, consisting of several spikes connected with each other with a very heavily sclerotized stripe. In Eulia HBN, signum abnormally big. The base of abdomen with the heavily sclerotized elements. The plates occurring in some groups of Lepidoptera as in Coleophoriidae

absent. The base of abdomen of an interesting structure. Thereoccurs a broad plate on the dorsal side of abdomen. This plate has sometimes a characteristic shape, the differences between individual species are, however, rather little, or absent. On the ventral side there occur two terminal lists, their ends are approximated to each other and connected with a plate slightly attached to them. The various kinds of the structure of the base of abdomen are shown in pl. XXXIII, fig. 130—136. Sexual dimorphism occurring in the structure of the base of abdomen is rather slight.

#### Key to the genera

	부지 : [1888] [1888] [1888] [1888] [1888] [1889] [1889] [1889] [1889] [1889] [1889] [1889] [1899] [18
1.	Secondaries fully developed, or more or less narrowed;
	$m_3$ present
	Secondaries reduced list-like; when fully developed $m_3$
	absent
2.	Inner vein of medial cell commencing before $r_1$
	Doloploca Hbn.
—.	Inner vein of medial cell absent, or commencing between
	$r_1$ and $r_2$
3.	$R_1$ in the primaries behind half of the upper edge of me-
	dial cell
—.	$R_1$ in the primaries before half of the upper edge of me-
	dial cell
4.	Sedondaries strongly narrowed Euledereria Fern. Q.
—.	Secondaries fully developed Eana BILLB.
	Middle joint of the labial palps longer than the
	head
—.	Middle joint of the labial palps conspicuously shorter
	than the head 7.
6.	Middle joint of the labial palps broad, the apical one very
	slightly visible Trachysmia Guen.
<del>-</del>	Middle joint of the labial palps narrow, the apical one
	well visible, extending Euledereria Fern. males.
7.	$Cu_2$ in the forewing from three quarters or furthermore
	of medial cell
	$Cu_2$ in the forewing from two thirds of medial cell. 9.
	Labial palps longer than the head Eulia Hbn.
•	The same of the sa

—. Labial palps $\pm$ as long as the head $\dots$
Neosphaleroptera Réal.
9. Middle joint of the labial palps triangular
—. Middle joint of the labial palps only slightly broadened
apically
10. In the hindwing $cu_2$ from $\pm$ three quarters of medial
cell
—. In the hindwing $cu_2$ from $\pm$ two thirds of medial cell
11. $Rr$ and $m_1$ in the hindwing depart near each other or
stalked Olindia Guen.
—. $Rr$ and $m_1$ in the hindwing depart distinctly separated
from each other Isotrias MEYR.
12. The abscissa between $r_1$ and $r_2$ in the forewing at the me-
dial cell about three times greater than between $r_2$ and
$r_3$ . Hindwings of females strongly reduced
—. The abscissa between $r_1$ and $r_2$ in the forewing at the me-
dial cell not three times greater than between $r_2$ and $r_3$ .
Hindwings of the females fully developed 13.
13. $R_1$ in the forewing departs from half of the length of the
upper edge of medial cell Tortricodes GUEN.
—. R <sub>1</sub> in the forewing departs beyond half of the length of
the upper edge of medial cell Oxypteron STGR.

## Biology

We have rather poor data concerning the biology of *Cnephasiini*. The majority of species appear in one generation in a year and some have two generations in a year. Some species occurring in Southern Europe fly probably in three generations. The young caterpillars hatch in a short time after the eggs are laid. After the hatching the caterpillars mine [*Cnephasia chrysantheana* (Dup.)] or devour parenchyma of the leaves [*Tortridoces tortricella* (HBN.)], then eat the whole leaf leaving only the thick veins. The young caterpillars of some species roll the leaf edges. In later stages the caterpillars roll great part of leaf and spin two or three leaves

with each other. The shape of rolled leaves is, sometimes, various according to the species. The caterpillars of some species roll the leaves into tubes. The caterpillars of the majority of species live under ground, but some of them construct shelters in the earth, i. e. Eana osseana (Scop.) and E. argentana (Cl.). The biology of these caterpillars somewhat like that of caterpillars of Crambus F. — species. The larvae of Eana osseana (Scop.) build tubular shelters of sand and pieces of food-plant, or hide themselves under the stones. They feed on the upper parts of the food-plant or among its roots.

The food plants of *Cnephasiini* are various; bush-plants and leaf-trees, rarely coniferous-trees. On the coniferous-trees live the caterpillars of *Tortrieodes tortricella* (Hbn.) or *Cnephasia cupressivorana* (Stgr.). The caterpillars of many species are unknown.

The caterpillars pupate in their shelters, in the rolled leaves in which they lived, or on the earth.

The Cnephasiini appear from early spring to late autumn. The first species appearing in early spring is Tortricodes tortricella (HBN.) flying sometimes already in the first days of February. A greater number of species appear in April. They are mostly members of Cnephasia Curt., caterpillars of which are feeding on the herbs. In Central Europe the greates number of species appear in the end of June, as well as in July. In Southern Europe such a maximum falls to somewhat earlier time. In that period appear the members of all genera of Cnephasiini. In the late Summer appears second generation, as well as the first generation of a small number of other species. Several representatives of Oxypteron Stgr. and Exapate Hbn. appear in the late autumn, and fly up to the first slight frosts. In the same period hatch those of specimens of Tortricodes tortricella (Hbn.) which hibernate.

The moths fly in the afternoon and evening. Nearly all species fly still in rise of darkness. *Cnephasiini* appear in the meadows, borders of forests, scattered copses, as well as on rocks covered with plants. *Eana osseana* (Scop.) prefers rather damp than dry meadows. Various species of *Cnephasia* Curt. appear in dry meadows. An example of a species appearing on the borders of the forests is *Eulia ministrana* (L.). A spe-

cies typical for the calcareous rocks is Eana canescana (Guen.).

The members of Eana Bills: occur generally in the mountainous regions, the representatives of the subgenus Ablabia Hbn. appear, however, in the high altitudes, as well as in the lowland regions. The species of Cnephasiini are widely spread in the European region; in most cases (81 species) they occur, however, in its southern parts. I include for a comparison a table with the number of species reported from Europe, North Africa, Asia and Asia Minor, as well as the total number of species occurring in Palearctic region.

	Number of species				
Genus .	Total	Europe	North Africa	Asia Minor	Asia
Synochoneura Obr.	1	· · · · · · · · · · · · · · · · · · ·			1
Olindia GUEN.	1	1	<u> </u>		
Isotrias Meyr.	4	4		(?)1	
Eulia Hbn.	1	1			1
Propiromorpha Obr.	2	1	1	_	
Palpocrinia KENN.	1	_			1
Cnephasia Curt.	62	35	9	30	12
Oxypteron Stgr.	9	6	3	3	1
Tortricodes Guen.	4	2		_	2
Neosphaleroptera RÉAL.	1	1	—	1	
Eana BILLB.	34	27	6	2	5.
Doloploca Hbn.	3	2	_	_	1
Exapate HBN.	2	2			1
Euledereria Fern.	1	1			
Trachysmia GNEN.	1	1		_	1
Species incertae sedis	12	1	. 3	2	6
Total	139	85	22	39	32

## SYSTEMATICAL PART

Genus: Olindia GUENÉE, 1845

Typus generis: Pyralis schumacherana Fabricius, 1787 Pyralis (part.) Fabricius, 1787, Mant. Ins. 2: 236 Olethreutes (part.) Hübner, 1822, Syst. Verz.: 65 Eudemis (part.) Hübner, 1825, Verz. bek. Schm.: 382 Tortrix (part.) Frölich, 1828, Enum. Tortr. Würt.: 64 ? Orthotaenia (part.) Stephens, 1829, Syst. Cat. Brit. Ins. 2: 181 Rhyacionia (part.) Stephens, 1834, Ill. Brit. Ent. Haust. 4: 180 Ephippiphora (part.) Duponchel, 1836, Hist. Nat. Lép. France 9: 324

Penthina (part.) DUPONCHEL, 1836, Hist. Nat. Lép. France 9: 539 Zeiraphera (part.) Curtis, 1838, Brit. Ent., expl. t. 711 Olindia Guenée, 1845, Ann. Soc. Ent. France ser. 2, vol. 3: 178 Anisotaenia Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 48 Olinda (err.) Lhomme, 1939, Cat. Lép. France & Belg. 2: 281

Head as shown in figure 137, plate XXXIV. Basal joint of labial palps short, middle one elongated, somewhat curved upwardly. Apical joint small, rounded. Primaries a little expanding outwardly, costal margin curved, termen oblique. Venation: sc runs almost straight,  $r_1$  arises from the middle of anterior edge of median cell and is distant from  $r_2$ . The distance between  $r_1$  and  $r_2$  is considerably greater than between  $r_2$  and  $r_3$ .  $E_4$  and  $r_5$  from median cell near each other.  $R_5$  touching the termen just a little below the apex. Medialis and cu, remote distinctly from each other. Inner vein of median cell commencing between  $r_1$  and  $r_2$ . Secondaries as broad as the primaries, apex rounded. Sc with several flexions; rr and  $m_1$ variable in their course, sometimes arising from median cell near each other, from one point or short stalked, in their further run dispersed and surrounding the apex.  $M_2$  and  $m_3$ parallel.  $M_3$  and  $cu_1$  arise rather nearly each other (pl. XXXV, fig. 150)

Male genital armature: valva broad, sacculus without a separate end provided, however, with a terminal small thorn. Uncus broad and deeply incised. The arms of gnathos connected with a weakly sclerotized membrane. Transtilla with two symmetrical processes covered with minute spines. In the aedeagus cornuti wanting.

Female genital armature: labia elongated and narrow, similar to those of *Eulia* Hbn. Lamella antevaginalis rather broad, heavily sclerotized, ductus bursae short, bursa copulatrix elongated. Signum reduced to minute granules.

To Olindia Guen. belongs only one species ocurring in Europe. Caterpillar feeds in spring on various plants.

#### Olindia schumacherana (FABRICIUS, 1787)

[Pl. XVII, fig. 1, pl. XXXVI, fig. 165, pl. LIV, fig. 249]

Pyralis schumacherana Fabricius, 1787, Mant. Ins. 2: 236; Olethreutes ulmana Hübner (1822—23, Samml. eur. Schm., Tortr., pl. 45, fig. 278, non binom.), 1822, Syst.-alph. Verz.: 65; Olethreutes aureolana Hübner (1822—23, op. cit., pl. 45, fig. 279, non binom.), 1822, op. cit. p. 58; Tortrix hastiana Haworth, 1811, Lep. Brit.: 462; Zeiraphera hastiana Curtis, 1838, Brit. Ent.: 711 & expl.; Olindia fasciana Wallengren, 1888, Ent. Tijdskr. 9: 194; Anisotaenia ulmana Kennel, 1910, Pal. Tortr.: 230, fig. 23, pl. 11, fig. 24, 25; Meyrick, 1913, pl. 4, fig. 54; Olindia ulmana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 15, pl. 6; Anisotaenia ulmana, 1949, pl. 2, fig. 4, 5; Benander, 1950, Svensk Insektf., pl. 48, fig. 4 h; Olindia schumacherana Wolf, 1952, Ent. Tidskr. 73; Olindia ulmana Obraztsov, 1955, Tijdschr. v. Ent. 98, fig. 249, 250, 251—255; Obraztsov, 1956, Tijdschr. Ent. 99: 107; Olindia schumacherana Bradley & Martin, 1956, Ent. Gaz. pl. 5.

Ab. cruciana Burmann, 1949, Z. Wien. Ent. Ges. 34: 44, pl. 2, fig. 3 (Anisotaenia).

ab. obscurana Burmann, 1949, Z. Wien. Ent. Ges. 34: 44, pl. 2, fig. 4 (Anisotaenia).

Primaries slightly expanding outwardly. Costal margin more or less curved, termen oblique, apex delicately rounded. Ground colour of primaries dark brown, sometimes dusked with black brown. Transversal band white. Dark medial band visibly isolated from the inner margin. Outer border of this band less distinct than the inner one, because of the dark brownish (seldom brown grey) outer part of the wing. The spot at the alar base distinct. Below the alar apex a dark spot is marked, often very indistinctly. Fringes partially mixed with yellowish. White transversal band variable in its width, in the females is wider than in the males. Secondaries dark brown and somewhat brightened at their base. Fringes dark, sometimes grey or even whitish. Length of the forewing 6—8 mm. Males are considerably smaller than the females.

Ab. cruciana Burm. Strongly darkened males with a rather reduced white band. In such specimens this band is narrow and often divided in two parts; in the centre of the wing broadened.

Ab. obscurana Burm. More darkened males than the former aberration. White band on the forewing reduced to two

small spots, one situated at the costal margin and the other in the half of the wing's width.

Male genital armature rather big. Valva broad and elongated. Sacculus list-like, wholly attached to the valva, provided with a small terminal thorn. Uncus wide, deeply concave. Socii small. The arms of gnathos connected merely with a faintly sclerotized membrane. Aedeagus slender, transtilla with two lateral symmetrically situated processes.

Female genital armature: labia narrow, gonapophyses anteriores and posteriores short, lamella antevaginalis heavily sclerotized, ostium bursae wide, ductus bursae short, bursa copulatrix small and elongated, signum rather atrophied.

O. schumacherana (F.) occurs in the whole of the continental Europe as well as in Great Britain. It appears in June and July.

Caterpillar whitish; head ochre yellow, darkly bordered posteriorly, thoracic plate black, tubercles black. It feeds in May and June on Aquilegia vulgaris L., Galeobdolon luteum Huds., Vaccinium L., Chrysoplenium L., Ranunculus L., and other plants.

Examined material:

Germany: 4 spec. "Hannover", coll. Zool. Mus. Humb. Univ. Berlin; 2 spec. "Hannover, 1870, Stgr."; 2 spec. "Regensburg, 1885" and "Baden, 25 7 [18]86", coll. I. Z. P. A. S., Warszawa — Poland: 15 spec. from Jamy distr. Grudziądz 22 VI 1926, 17 VI 1920, 24 VI 1931, Ustroń, Równica 750 m. alt. 28 VI 1939, 1 VIII 1940. Tuł distr. Cieszyn 21 VI 1940, Pieniny Mts.-Wyrobek 17 VII 1949, Bieszczady Mts. Baligród, Czarne 23 VII 1955.

## Genus: Isotrias Meyrick, 1895

Typus generis: Tortrix rectifasciana Haworth, 1811
? Phalaena (part.) Scopoli, 1772, Ann. Hist. Nat.: 118.
? Pyralis (part.) Fabricius, 1794, Ent. Syst. 3/2: 248.
Tortrix (part.) Haworth, 1811, Lep. Brit.: 465.
Archips (part.) Hübner, 1822, Syst. alph. Verz.: 61.
Syndemis (part.) Hübner, 1825, Verz. bek. Schm.: 382.
Cnephasia (part.) Stephens, 1829, Syst. Cat. Brit. Ins. 2: 180.
Eudemis (part.) Stephens, 1834, Ill. Brit. Ent. Haust. 4: 130.
Sciaphila (part.) Duponchel, 1836, Hist. Nat. Lép. France 9: 528.
Olindia (part.) Lederer, 1859, Wien. Ent. Mnschr. 3: 253.
Lobesia (part.) Lederer, 1859, Wien. Ent. Mnschr. 3: 329.

Isotrias Meyrick, 1895, Handb. Brit. Lep.: 542. Anisotaenia (part.), Rebel, 1901, Stgr.-Rbl. Cat. 2: 93.

Head and labial palps (pl. XXXIV, fig. 138) similar to those of Olindia Guen. Venation as in Olindia Guen. In the forewing  $r_1$  from median cell, just a little before half its length.  $R_1$  more remote from  $r_2$  than  $r_2$  from  $r_3$ .  $R_4$  and  $r_5$  from median cell, considerably near each other;  $r_5$  touching the alar apex. In the hindwing rr rather remote from  $m_1$ ;  $m_3$  and  $cu_1$  sometimes from one point. Male genital armature built rather similarly as in the species of the former genus in the Isotrias Meyr., however, uncus is slender and simple (in Olindia Guen. bifurcated), valva more elongated, sacculus somewhat longer, aedeagus narrower at its end and socii more slender. In female genital armature labia more slender than in Olindia Guen. Signum path of minute spines, considerably remote from each other.

Only four European species belong to the above mentioned genus.

Caterpillars probably polyphagous.

#### Isotrias rectifasciana HAWORTH, 1811

[Pl. XVII, fig. 3, pl. XXXVI, fig. 166, pl. LIV, fig. 250]

Phalaena Tortrix trifasciana (non Fabricius) Donovan, 1806, Nat. Hist. Brit. Ins. 11: 30, pl. 370, fig. 2; Tortrix rectifasciana Haworth, 1811, Lep. Brit.: 465; Tortrix nemorana Frölich, 1828, Enum. Tortr. Würt.: 58; Sciaphila albulana Treitschke, 1835, Schm. Eur. 10/3: 85; Cnephasia Syndemis hybridana (part.) Stephens, 1852, List. Spec. Anim. Brit. B. M. 10: 66; Anisotaenia rectifasciana Kennel, 1910, Pal. Tortr.: 231, fig. 24 (3 genit.), pl. 11, fig. 28; Meyrick, 1913, pl. 4, fig. 53, pl. 5, fig. 67; Isotrias rectifasciana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 15, pl. 6 (3 \( \phi \) genit.); Obraztsov, 1955, Tijdschr. v. Ent. 98, fig. 241—245 (\( \phi \) genit.), fig. 256 (venation); Obraztsov, 1956, Tijdschr. v. Ent. 99: 108.

Ab. curvifasciana Stephens, 1834.

Cnephasia aurifasciana Stephens, 1829, Syst. Cat. Brit. Ins. 2: 181 (nom. n.); Ab. curvifasciana Stephens, 1834, Ill. Brit. Ent. Haust. 4: 181 (Cnephasia Eudemis), Olindia hybridana (part.) Walker, 1863, List Spec. Lep. Ins. B. M. 27: 227.

Ab. pseudomontana Obraztsov, 1956.

Sciaphila modestana (non Treitschke) Duponchel, 1836, Hist. Nat. Lép. France: 9: 528, pl. 256, fig. 6; Sciaphila horridana Duponchel, 1846, Cat. Mét. Lép. Eur.: 298; Lobesia porrectana (part.) Lederer, 1859, Wien. Ent. Mschr. 3: 329; Anisotaenia rectifasciana (part.) Rebel, 1901, Stgr. & Reb. Cat. 2: 93. Ab. pseudomontana Obraztsov, 1956, Tijdschr. v. Ent. 99: 108 (Isotrias).

Subsp. insubrica (MÜLLER-RUTZ, 1920).

? Anisotaenia cuencana (non Kennel) Mitterberger, 1915, Z. wiss. Ins. Biol. 11: 177; Anisotaenia rectifasciana ssp. insubrica Müller-Rutz, 1920, Mitt. Ent. Zürich 5: 339, pl. 2, fig. 5. Anisotaenia rectifasciana (non Haworth) Prohaska, 1922, Z. Oestert. Ent. Ver. 7: 3; Anisotaenia carinthiaca Prohaska, 1922, T. Oester. Ent. Ver. 7: 22.

Subsp. castillana RAGONOT, 1894.

Olindia rectifasciana ssp. castillana Ragonot, 1894, Ann. Soc. Ent. France. 63: 187; Olindia cuencana Kennel, 1899, Dtsch. Ent. Zeit. Iris 12: 13, pl. 1, fig. 11; Isotrias rectifasciana (part.) Meyrick, 1912, Wagner's Lep. Cat. 10: 50; Anisotaenia cuencana Kennel, 1910, Pal. Tortr.: 232, pl. 11, fig. 29.

Forewings in males broader and more expanding outwardly than in females. Costal margin in males only slightly curved and the termen more oblique than in females. Forewings white to white yellowish. Pattern distinct, brownish, consisting of a basal spot or a band and a medial band which has a distinct projection situated in the middle of costa. This band sometimes is isolated from the dorsal margin of the wing. Terminal area of the wing stripped or spotted with dark. This feature occurs particularly in males. Sometimes in the terminal area no stripping, but a distinct, dark spot dilated from costa to the alar centre. The area below the costa sometimes sprinkled or spotted with dark. Fringes of forewing concolorous with the ground. Hindwings grey brown with paler fringes. Length of the forewing 7—9 mm.

Subsp. *insubrica* (M.-R.). To this form belong bright coloured specimens with dusked pattern at the margins of the forewings. It occurs in Switzerland, Austria and Italy.

Subsp. castillana (RAG.). More darkened specimens with grey brown on the forewings. Forewings sometimes darkly, transversally stripped. Pattern distinct, dark brown. This form was described from Spain.

Male genital armature valva rather broad, faintly expanding posteriorly. Sacculus narrow, completely attached to

the valva and ended with a minute, separate thorn. Uncus long, bent inwards.

Female genital armature: lamella antevaginalis narrow, introitus vaginae somewhat broader and more heavily sclerotized than ductus bursae. Signum consisting of several spines.

I. rectifasciana HAW. appears in June and July. It is distributed in Great Britain, as well as in Western and Central Europe; probably it is known also from Asia Minor.

Caterpillar feeds on various plants.

Examined material:

Spain: "Sn. Ildefonso, 22 VI & 6 VI", coll. Zool. Mus. Humb. Univ., Berlin; "Hispania, Castilia, 1889", coll. S. Toll (subsp. castillana Rag.), "Hispania, Arag[onia], Albarracin 12—22 V 1953", coll. S. Toll. (subsp. castillana Rag.); "Valesia Ag.", coll. Zool. Mus. Humb. Univ., Berlin—Italy: "Bologna, Pontecchio, 18 V 1935"; "Bologna, S. Luca 16 V 1956", coll. S. Toll [subsp. insubrica (M.-R.)]—Germany: "Germania, 1886, Speyer, 1 VII 1906 & 2 VIII 1907", "Kyffhäuser, Rothenberg, 7 V 1894", coll. S. Toll; "Augsbg.", "Jena", "Gotha", coll. Zool. Mus. Humb. Univ., Berlin; "Favorita, Baden, 22 V [18]86 & 30 V [18]84 & 17 V [18]86", "Ettlingn. Baden, 18 VI [18]87", "Burg Katz, 9 VII [18]97", "Rothebg., Kyfferhsn., 3 V [18]94", coll. I. Z. P. A. S., Warszawa.

## Isotrias hybridana (HÜBNER, 1822)

[Pl. XX, fig. 30, pl. XXXVI, fig. 167, pl. LIV, fig. 251]

Archips hybridana Hübner, (1814—17, Samml. Eur. Schm. Tortr. pl. 38, fig. 238, non binom.), 1822, Syst.-alph. Verz.: 61; Tortrix cingulana Werneburg, 1864, Beitr. Schm. Kunde 1: 359; Anisotaenia pedemontana (part.) Kennel, 1910, Pal. Tortr. pl. 11, fig. 27; Anisotaenia hybridana Kennel, 1910, Pal. Tortr.: 230, pl. 11, fig. 26.

Subsp. pedemontana (STAUDINGER, 1871)

Olindia hybridana subsp. pedemontana Staudinger, 1871, Berl. Ent-Z. 14 (1870): 275; Olindia fingalana Millière, 1884, Rev. Ent. 3: 3; Isotrias hybridana Lhomme, 1939, Cat. Lép. France & Belg. 2: 281.

I. hybridana (Stgr.) differs from I. rectifasciana Haw. more by its external character than by the structure of the male as well as the female genital armature. Costal margin of the forewing slightly curved. Sexual dimorphism slighter than in the previous species. Pattern on the forewing con-

sisting of a basal spot, medial transverse band and dark terminal spot. Terminal spot sometimes divided into several smaller ones. Inner edge of the medial band distinctly marked. The space between the medial band and basal spot is white and above medial band more dusked with grey, grey brown or brown. Hindwing grey brown, fringes somewhat brighter than the ground colour. Length of the forewing 6—8 mm.

The species in question is variable. Forewing often darkened on its outer portion.

Male as well as female genital armature similar to those of the previous species.

I. hybridana (HBN.) occurs in two generations in a year i. e. the first in May and June and the second one in August. The species is distributed in Central Europe, Balkans, Podolia and Asia Minor.

Subsp. pedemontana (STGR.). This form is characteristic by dark, almost uniformly unicoloured specimens. Forewings brownish yellowish with faint and smeared pattern somewhat darker than the ground of the wing.

Caterpillar feeds on Crataegus L., Acer L., Quercus L. and other trees.

Examined material:

Italy: "Pademontium, Macugnaga, 28 VI 1869", coll. S. Toll.; 3 spec. "Macugnaga, 28 VI [18]69", coll. I. Z. P. A. S., Warszawa; 2 spec. "macugnaga, Origin. Typus", coll. Zool. Mus. Humb. Univ., Berlin [subsp. pedemontana (Stgr.)] — Greece: "Parnass, 21 VI [18]66", coll. Zool. Mus. Humb. Univ., Berlin. Austria: 3 spec. "Wien, 1886, Kr.", coll. I. Z. P. A. S., Warszawa; "Weldes Oberkrain, 21—30 VI 1943", coll. S. Toll. — Germany: 3 spec. "Mödling, 16 V — 12 VI [18]93", coll. I. Z. P. A. S., Warszawa — Hungary: 3 spec. "Ofen", coll. Zool. Mus. Humb. Univ. Berlin — Poland: several spec. from Pieniny Mts., VII 1948—1957, coll. S. Toll and author — USSR: several spec. from Ubieżowa distr. Zaleszczyki, V 1934—36, coll. S. Toll.

## Isotrias stramentana (Guenée, 1845)

[Pl. XXIII, fig. 54, pl. XXXVI, fig. 168, pl. LIV, fig. 252]

Sciaphila stramentana Guenée, 1845, Ann. Soc. Ent. France ser. 2, vol. 3: 167; Olindia albulana (part.) Lederer, 1859, Wien. Ent. Mnschr. 3: 253; Anisotaenia stramentana Kennel, 1910, Pal. Tortr.: 232, fig. 25 (3 genit.), pl. 11, fig. 30, 31.

In the shape of wings it resembles more *I. rectifasciana* (Haw.) than *I. hybridana* (Hbn.). Sexual dimorphism occurs in the shape as well as in colouring of the wings. Forewings in males nearly uniformly yellow grey, tinged brown, with dark, transversal striatation. Medial band slightly marked. Females are considerably smaller than males. Forewings in females more narrowed than in males, pattern rather distinct. Ground colour of the forewing concolorous with that of male. Basal spot in females absent, medial band narrow and rather indistinct, terminal spot well marked, brown yellow. Fringes concolorous with the ground of the wing. Hindwings grey brownish with concolorous fringes. Length of the forewing 7—9 mm.

Male as well as female genital armature in their outlines of similar structure as in the previous species.

 $I.\ stramentana\ ({\it GUEN.})$  is distributed in Switzerland, Spain and Southern France.

Early stages unknown.

Examined material:

3 spec. labelled: "Angers", coll. Zool. Mus. Humb. Univ., Berlin.

## Isotrias joannisana (Turati, 1921)

Anisotaenia joannisana Turati, 1921, Nat. Sci., 23: 327, t. 4, fig. 40-41.

I have had no opportunity for examining this species and I give the original description of it: "Alis anticis ochraceoflavis, striaturis, rectifascianae similibus sed paullulum latioribus, aurantiacis. Cilia flavis. Al. post. opace brunnescentibus, ciliis clarioribus. Capite, palpis, thoraceque aurantiacis. Abdomine brunnescenti-griseo, segmentis analibus lutescentibus, tarsis lene brunneo cingulatis. Antennis brunneis. Subtus al. ant. disco obscure brunneo late ad costam quaterque luteoinquiculatis, margine distali ex linea lutescenti, lunulam obscuram apicalem circumdante. Ciliis lutescentibus, obscure ad basin marginatis. Alis posticis lutescentibus. Statura mm. 16—17 da apice ad apice.

Colore del fondo delle ali anteriori giallo d'ocra chiaro; ringhe transversali e la base giallo arantiato vivo. I disegni

e la disposizione delle righe come nella rectifasciana Hw., tuttavia la macchia basale arantiata è piu regolare è pure la fascia mediana. La frangie sono concolori col fondo dell'ala. Ali posteriori brune, opache. Frangie più chiare, precedute da un filo distale bruno. Testa, palpi, torace, giallo auranciato. Addome grigio-bruno, lutescente negli ultimi segmenti anali. Gambe esternamente lutescenti, bruniccie internamente; tarsi cerchiati di bruno chiaro. Antenne brune. Di sotto: le anteriori col disco bruno: alla costa quattro larghe unguiculature giallo-luteo. Margine distale con una linea lutescente che gira all'apice lasciando un picolo spazio lunulare bruno. Le frangie lutescenti cun un filo più oscuro alla base. Le ali posteriori lutescenti, opache, un po'più oscure nel mezzo del disco. Frangie come nelle anteriori. Quattro esemplari raccolti dal sig. GEO. Krüger al Monte Autore (in provincia di Roma) all'acetilene il 10 giugno 1909, d'uno dei quali feci presente al sig. G. DE Joannis. All'illustre entomologo francese in segno di riconoscenza, ed a titolo di onore, dedico la specie. Lábate DE Joannis infanti insieme a Mr. J. H. Durrant, curtuatore della Collezione Walsingham nel British Museum di Londra, guicicarono entrambi nuova questa marcatissima Tortricidae, ascrivendola al genere Anisotaenia. Nel "Kennel" nulla c'è che a questa specie si possa avvicinare nel suo nuovissimo colore giallo affatto peculiare.

## Genus: Eulia HÜBNER, 1825

Typus generis: Phalaena Tortrix ministrana Linnaeus, 1758

Phalaena (part.) Linnaeus, 1758, Syst. Nat. ed 10: 531.
Tortrix (part.) Haworth, 1811, Lep. Brit.: 398.
Olethreutes (part.) Hübner, Syst.-alph. Verz.: 60.
Rhyacionia (part.) Hübner, 1825, Verz. Bek. Schm.: 379.
Eulia Hübner, 1825, Verz. Bek. Schm.: 392.
Lophoderus Stephens, 1829, Syst. Cat. Brit. Ins. 2: 184.
Ptycholoma (part.) Duponchel, 1845, Cat. Méth. Lép. Eur.: 288.

First joint of labial palps rather long, the apical one short, pointed, the middle one also long the longest of them. Proboscium fully developed. Wings broad, costal margin of the forewing slightly curved, apex rounded. The abscissa  $r_3-r_4$  about twice as long as  $r_4-r_5$ , and similar as  $m_2-m_3$ , as well

as  $m_3$ — $cu_1$ . In the hindwing rr and  $m_1$  stalked.  $M_2$  considerably remote from  $m_3$ .  $M_3$  and  $cu_1$  from median cell near each other, from one point or short stalked.

Except E. ministrana (L.), probably several non European species belong to Eulia HBN., however, I have not examined their genital armatures.

In the male genital armature valva wide, sacculus heavily attached to it, lacking its free tip. Transtilla provided laterally with two horn-shaped, long processes. Gnathos tipped with a plate, socii wide. Female genital armature also very characteristic. Ductus bursae narrow, fairly short, bursa copulatrix rather large, the major part of the latter covered with minute spines; labia narrow, similar as in the previous species.

I place in *Eulia* Hbn. only *E. ministrana* (L.), a species widely spread in the Holarctic region.

#### Eulia ministrana (LINNAEUS, 1758)

[Pl. XXVI, fig. 78, pl. XXXVI, fig. 169, pl. LV, fig. 253]

Phalaena Tortrix ministrana Linnaeus, 1758, Syst. Nat. ed. 10: 531; Olethreutes ferrugana Hübner (1796—99, Samml. eur. Schm. Tortr. pl. 10, fig. 56, non binom.), 1822, Syst. alph. Verz.: 60; Tortrix ministrana Kennel, 1910; Pal. Tortr.: 168, pl. 8, fig. 33; Eulia ministrana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 9, pl. 3 (\$\delta\pi\$ genit.); Diakonoff, 1939 Zool. Meded. Mus. Leiden 21: 189, fig. 14, B—E (\$\delta\$ genit., venation, head); Tortrix ministrana Benander, 1950, Svensk. Insktf. 1950: 42, fig. 5 h (\$\delta\$ genit.); Eulia ministrana Obraztsov, 1955, Tijdschr. Ent. 98; fig. 216, 217 (venation, head), 259—262 (\$\delta\pi\$ genit.); Obraztsov, 1956, Tijdschr. Ent. 99: 109; Bradley & Martin, 1956, Ent. Gaz. 7, pl. 5.

Ab. dilutana (STRAND, 1901).

Lophoderus dilutanus Strand, 1901, Nyt. Mag. Naturvid. 39: 66. Ab. subfasciana (Stephens, 1834).

Lophoderus subfascianus Stephens, 1829, Syst. Cat. Brit. Ins. 2: 184, n. n.; 1834, Ill. Brit. Ent. Haust. 4: 144; Tortrix ferrugana Dupon-Chel, 1836, Hist. Nat. Lép. France 9: 478, pl. 261, fig. 2; Ptycholoma livoniana Duponchel, 1845, Cat. Méth. Lép. Eur.: 289; Lophoderus ministranus (part.) Walker, 1863, List. Spec. Lep. Ins. B. M. 27: 223; Lophoderus infuscanus Strand, 1901, Nyt. Mag. Naturvid. 39: 66.

Forewings broad, expanding outwardly, costal margin slightly and equally curved, termen faintly oblique, apex

rounded. Ground colour of the forewing yellowish brown, tinged gold, sometimes grey suffused, scarcely brownish. Basal part of the wing dusked, the proximal one paler. Medial band slightly marked, uniform, or interrupted. A long, dark spot close to the whole of costa; it has a projection situated in the half of the wing's length. The terminal angle of median cell marked with a pale speck. Fringes concolorous with the adjacent part of the wing. Secondaries grey brownish, more or less marked with darker; fringes paler than the ground. Length of the forewing about 11 mm.

Ab. subfasciana (STEPH.). Darker specimens generally uniformly coloured, dark brown, sometimes rusty brown. Medial dot less visible. A form occurring in mountainous regions. Caterpillar feeds probably on Vaccinium L.

Male genital armature: valva broad, ellipsoidal, sacculus without a free tip, transtilla provided with two characteristic, horn-shaped processes; uncus rather long, a little widened terminally; socii wide, flap-shaped, gnathos large, aedeagus long and slender.

Female genital armature: bursa copulatrix large, in major part covered with minute spines (signum). Ductus bursae very narrow.

This species is reported from Europe, Siberia and North America. It appears from mid May to the end of July, usually in woods. Caterpillar green; head brown red, thoracic plate whitish green. In feeds August to autumn, and after the hibernation in early spring; it pupates in April. Foodplants: Batula L., Alnus MILL., Rhamnus L., Rosa L., Sorbus L., Fagus L., Quercus L., Tilia L., and others.

Examined material:

Poland: many specimens from Tatry Mts., environs of Kraków, Ojców and Dulowa distr. Trzebinia, V—VII 1954—56, coll. I. Z. P. A. S., Kraków, S. BŁESZYŃSKI and author.

## Genus: Propiromorpha OBRAZTSOV, 1955

Typus generis: Penthina rodophana Herrich-Schäffer, 1851

Penthina (part.) Herrich-Schäffer, 1851, Syst. Bearb. Schm. Eur. 4: 226.

Conchylis (part.) LEDERER, 1859, Wien. Ent. Mnschr. 3: 273.

Tortrix (part.) Lederer, 1863, Wien. Ent. Mnschr. 7: 44.
Lophoderus (part.) Wocke, 1871, Stgr.-Wck. Cat.: 237.
Pygolopha Walsingham, 1900, Ent. Mon. Mag. 36: 152.
Eulia (part.) Rebel, 1901, Stgr.-Rbl. Cat. 2: 88.
Cnephasia (part.) Meyrick, 1912, Wagner's Lep. Cat. 10: 43.
Trachysmia (part.) Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56.

Head minutely scaled (pl. XXXIV, fig. 140), antennae thickly dusted with scales; hairs slightly visible. The basal and apical joints of labial palps small, the middle one long, thin, almost straight. Costal margin of the forewing equally curved, termen slightly oblique.  $R_3$  and  $r_4$  approaching more to each other than the remaining branches of radius. In the hindwing sc curved: rr and  $m_1$  from a stalk; the abscissa  $m_1$ — $m_2$  longer than  $m_2$ — $m_3$  (pl. XXXV, fig. 153).

Male genital armature. Valva broad, sacculus without the free end, gnathos narrow and without the terminal plate; socii large, uncus slender, prong-like, curved backwards. No cornuti in aedeagus.

Female genital armature (pl. LV, fig. 254). Labia narrow, similar to those of *Eulia Hbn.*, *Trachysmia Guen.*, or *Olindia Guen.* Introitus vaginae broad, signum similar as in other representatives of *Cnephasiini*.

Only two species belong to this genus. The first of them occurs in Europe and Asia Minor, the second one in North-Western Africa.

## Propiromorpha rhodophana (HERRICH-SCHÄFFER, 1851)

[Pl. XVIII, fig. 9, pl. XXXVI, fig. 170, pl. LV, fig. 254]

Penthina rhodophana Herrich-Schäffer, 1851, Syst. Bearb. Schm. Eur. 4: 234, (1849, Tortr. pl. 52, fig. 368, non binom.); Tortrix rhodophana Kennel, 1910, Pal. Tortr.: 167, pl. 8, fig. 50; Cnephasia (Trachysmia) rhodophana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56; Propiromorpha rhodophana Obraztsov, 1955, Tijdschr. Ent. 98: 246—248 (fig. 3 genit.); Obraztsov, 1956, Tijdschr. Ent. 99: 108.

Primaries wide, costal margin slightly curved, termen a little oblique, apex rounded. Their ground colour whitish, or white yellowish, sometimes tinged grey. Pattern grey, greybrown, or sometimes even grey black. Basal spot pronounced; medial band wide and expanding at the dorsal margin, so-

metimes interrupted in the wing centre. Terminal spot well visible, termen darkened. Fringes dark, concolorous with the adjacent part of the wing, sometimes with a transversal striatation. The latter connected sometimes into the indistinct lines. Secondaries whitish brown, brighter at the base, further on distally darkened and transversally stripped. Fringes whitish grey. Length of the forewing about 7 mm.

Male genital armature: valva broad; the whole sacculus attached to valva, without any separate tip. Aedeagus heavily curved, uncus very narrow, socii large in relation to other parts of genital armature; gnathos thin, transtilla narrow.

Female genital armature: labia narrow, lamella antevaginalis narrow, introitus vaginae broad; bursa copulatrix large, signum long and narrow.

P. rhodophana (H.-S.) occurs in all Southern Europe (except Iberian peninsula and South-Eastern districts), Podolia and Asia Minor. It appears in April and May, in Ukraine also in June. Caterpillar feeds from June on Clematis; pupa hibernates.

## Genus: Cnephasia Curtis, 1826

Typus generis: Olethreutes pascuana HÜBNER, 1822

Phalaena (part.) Schiffermüller & Denis, 1776, Syst. Verz. Schm. Wien. Geg.: 131.

Tortrix (part.) Haworth, 1811, Lep. Brit.: 463.

Eutrachia (part.) Hübner, 1822, Syst.-alph. Verz.: 62.

Olethreutes (part.) Hübner, 1822, Syst.-alph. Verz.: 63.

Syndemis (part.) Hübner, 1825, Verz. bek. Schm.: 382.

Doloploca (part.) Hübner, 1825, Verz. bek. Schm.

Cnephasia Curtis, 1826, Brit. Ent. 3, pl. 100.

Sciaphila (part.) Treitschke, 1830, Schm. Eur. 8: 168.

Dolophora (err.) Stephens, 1834, Ill. Brit. Ent. Haust. 4: 127.

Nephodesma (part.) Stephens, 1834, Ill. Brit. Ent. Haust. 4: 127.

Eudemis (part.) Stephens, 1834, Ill. Brit. Ent. Haust. 4: 128.

Dolophoca (er.) Stephens, 1835, Ill. Brit. Ent. Haust. Errata: 2.

Argyrolepia (part.) Duponchel, 1836, Hist. Nat. Lép. France 9: 439.

Sphaleroptera Guenée, 1845, Ann. Soc. Ent. France 2/3: 167.

? Poedisca (part.) Guenée, 1845, Ann. Soc. Ent. France 2/3: 174.

Catoptria (part.) Guenée, Ann. Soc. Ent. France 2/3: 189.

Ablabia (part.) Herrich-Schäffer, 1851, Syst. Bearb. Schm. Eur. 4: 178.

Steganoptycha (part.) REBEL, 1901, STGR.-RBL. Cat. 2: 110.

Anisotaenia (non Stephens) Osthelder, 1938, Mitt. Münch. Ent Ges. 28: 23.

Hypostephanuntia Réal, 1951, Bull. Mens. Soc. Linn. Lyon 20: 229. Brachycnephasia Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 57.

Head and labial palps in pl. XXXIV, fig. 141. Basal joint of labial palps rather large, the middle one triangular, strongly elongated, the apical joint rather short. Middle joint is longer than the apical and basal ones. Proboscium fully developed.

Primaries elongated, more or less expanding outwardly, in females, however, sometimes of equal width. Secondaries usually trapezoidal, the apex somewhat acuminate. Venation in primaries constant, that in secondaries somewhat variable. In the forewing  $r_1$  from median cell about half its length. The abscissa  $r_1 - r_2$  is longer than  $r_2 - r_3$ . Other distances between the branches of radius rather similar to each other.  $R_5$  touching the alar apex. The branches of mediana nearly parallel to each other;  $cu_1$  faintly curved. In the hindwing sc long and faintly curved; rr and  $m_1$  from median cell near each other, from one point or shortly stalked; the abscissa  $m_1 - m_2$  longer than  $m_2 - m_3$ ; the run of  $m_2$  and  $m_3$  in relation to  $cu_1$  is variable (pl. XXXV, fig. 154).

Male genital armature: valva elongated, rather narrow, sacculus tipped with a separate prong. The latter is minutely haired. In the representatives of the subgenus Anoplocnephasia Réal sacculus is list-like and without any separate tip. There occur, however, intermediate stages between these two types of sacculus. On the ventral edge of list-like sacculus, a small fold is formed having an extremely short, separate tip. This transitory stage may be observed in such species as C. grandis (Osth.) and C. facetana Kenn. There is an interval among the above mentioned kinds of sacculus, there is, however, a chance of finding other intermediate types. — Tegumen narrow, uncus in the members of subgenera Cnephasia s. str. and Cnephasiella Adamcz. always long, but in the species of subgenus Anoplocnephasia Réal it is considerably shorter. Transtilla narrow and smooth, in a few species, however, it

is wide. Aedeagus sometimes provided with a characteristic thorn or dentation; cornuti alway lacking; the connection with anellus various (will be described together with the characteristics of subgenera). Gnathos narrow, sometimes tipped with a plate; socii generally big.

Female genital armature: labia wide or narrow. The wide labia covered with hairs of two kinds: either equally thin, or, tipped with swellings. The narrow labia covered with thin hairs only, as in the members of *Cnephasiella Adamcz*. Lamella antevaginalis usually well developed, introitus vaginae sometimes heavily sclerotized, ductus bursae frequently long. Signum stripe-shaped or drop-shaped, consisting of minute spines.

The members of *Cnephasiella* Adamcz. are variable in their venation, colouring of the wings, and, sometimes in their shape, too. The variability of genital armatures occurs especially in the males, but the female genital armatures also vary. In the male genital armatures the most variable characters are: the length of the sacculus and the shape of the weakly sclerotized part of valva. The shape of valva, as well as the other components of genitalia (i. e. uncus, aedeagus), may vary depending on the pressure exerted on the preparation by the cover-glass.

## Key to the subgenera of Cnephasia Curt.

#### Subgenus: Cnephasiella ADAMCZEWSKI, 1936

Typus subgeneris: Sciaphila incertana Treitschke, 1835

Cnephasiella Adamczewski, 1936, Ann. Mus. Zool. Pol. 11: 268.

The representatives of *Cnephasiella* Adamcz. lack the differences in habitus. The differences in the structure of genital armatures occur only in females. Male genital armatures similar to those of *Cnephasia* Curt. s. str. Female genitalia differ from those of *Cnephasia* Curt. s. str. by the shape of ovipositor, which consists of two narrow, partially coalescent pieces (in *Cnephasia* Curt. s. str. broad and flat); labia clothed only with thin hairs and lacking hairs tipped with thickenings. Lamella antevaginalis small, lamella subgenitalis strongly reduced, in *C. abrasana* (Dup.), however, it is distinctly developed.

## Cnephasia (Cnephasiella) abrasana (Duponchel, 1843)

[Pl. XVIII, fig. 10, pl. XXXVII, fig. 171, pl. LV, fig. 255]

Sciaphila abrasana Duponchel, 1843, Hist. Nat. Lép. France, Suppl. 4: 407, pl. 83, fig. 2; Tortrix abrasana Kennel, Pal. Tortr.: 213, pl. 11, fig. 3; Cnephasia abrasana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 10, pl. 3 (3 genit); Cnephasiella abrasana Adamczewski, 1936, Ann. Mus. Zool. Pol. 11: 270; Cnephasia abrasana Toll, 1953, Pol. Pis. Ent. 22: 127.

Primaries fairly broad, costal margin slightly arched. termen oblique. Ground colour more or less dusked with darker. Pattern reduced consisting of a transversal stripping and sometimes of dark smeared streaks in the middle area. Fringes concolorous with the ground. Secondaries grey brown with paler fringes.

Male genital armature: valva broad, proximally narrowed; sacculus very short, thick; tegumen small; uncus long and thin; gnathos fairly small, strongly curved.

Female genital armature: labia narrow, distinctly separated from each other coalescent, however, by transparent membrane; lamella subgenitalis small, lamella antevaginalis sharply incised distally; gonapophyses anteriores and posteriores long; duetus bursae long and thin; signum fairly small.

C. (Cnephasiella) abrasana (Dup.) is distributed in Great Britain, Central Europe, Italy, Balkans, Asia Minor and probably in Central Asia. It appears in June and July.

Larva feeds in April and May on Achillea millefolium L.

Examined material:

Italy: "Roma, Haas", "Spalato" (coll. Zool. Mus. Humb. Univ., Berlin); several spec. "Emilia, Bologna, leg. A. Fiori" (coll. A. Fiori and author) — Yugoslavia: 2 spec. "Herzegovina, 1 V 1938, H. G. Amsel" coll. H. G. Amsel — Greece: 2 spec. "Greece", 2 spec. "Macedonia 10 V [18]69", "Attica 17 IV [18]67" (coll. Zool. Mus. Humb. Univ., Berlin) — Austria: 2 spec. "Wien", coll. Zool. Mus. Humb. Univ., Berlin; "Wien, Prater", "Austria, Wien, 1886, Mn. [Mann]; 2 spec. "Teriolis m. Botzen, Mn. [Mann], 1867" (coll. I. Z. P. A. S., Warszawa).

## Cnephasia (Cnephasiella) incertana (TREITSCHKE, 1835) [Pl. XVIII, fig. 11, 12, 13, pl. XXXVII, fig. 172, pl. LV, fig. 256, 257]

Sciaphila incertana Treitschke, 1835, Schm. Eur. 10/3: 91; ? Eana wahlbomiana Zetterstedt, 1840, Ins. Lapp.: 984; Sciaphila subjectana GUENÉE, 1845, Ann. Soc. Ent. France 2/3: 165; Sciaphila minorana Her-RICH-SCHÄFFER, 1851, Syst. Bearb. Schm. Eur. 4: 201, (1847, Tortr. pl. 15, fig. 104-106 non binom.); Sciaphila minusculana LEDERER, 1859, Wien. Ent. Mnschr. 3: 252 (Zeller, 1849, Stett. Ent. Ztg. 10: 247, non binom.); Cnephasia pascuana Stainton, 1859, Man. Brit. Butt. & Moths 2: 258; ? Sciaphila communana (part.) Wocke, 1871, Stgr. & Wocke Cat. 241; Tortrix incertana Kennel, 1910, Pal. Tortr.: 203, fig. 14, 15 (3  $\circlearrowleft$  genit.), pl. 10, fig. 41, 42 (var. minorana); Cnephasia incertana Pierce & METCALFE, 1922, Genit. Tortr. Brit. Isl.: 10, pl. 3 (♂ ♀ genit.); ADAM-CZEWSKI, 1936, Ann. Mus. Zool. Pol. 11: 265, 268, pl. 35, fig. T. 11, 9, pl. 37, fig. W. 5 (3 9 genit.); Benander, 1950, Svensk Insektf.: 46, fig. 60 (3 genit.); Cnephasia (Cnephasiella) pascuana Réal, 1952, Bull Mens. Soc. Linn. Lyon 22: 56; Cnephasiella incertana Obraztsov, 1955, Tijdschr. Ent. 98, fig. 268—272; 1956, Tijdschr. Ent. 99: 117; Bradley & MARTIN, 1956, Ent. Gaz. 7, pl. 6; Cnephasia C[nephasiella] pasivana RA-ZOWSKI, 1957, Acta Zool. Crac. 1: 125, pl. 16, fig. 4, pl. 21, fig. 4, pl. 25, fig. 2.

## Ab. leucotaeniana Schawerda, 1914.

Tortrix fragosana (err.) Kennel, 1910, Pal. Tortr. pl. 10, fig. 40, Cnephasia pascuana ab. leucotaeniana Schawerda, 1914, Verh. Zool.-bot. Ges. Wien 64: 376; Cnephasia pascuana pseudocommunana Réal, 1953, Bull. Muss. Soc. Linn. Lyon, 22: 57.

## F. bergüniana RAZOWSKI, 1958.

Cnephasia incertana f. berügniana. RAZOWSKI 1958, Acta Zool. Crac. 2: 572, pl. 54, fig. 12, pl. 60, fig. 49.

F. atticana Razowski, 1958.

Cnephasia incertana f. atticana Razowski, 1957, Acta Zool. Crac. 2: 571, pl. 54, fig. 11.

A small species, of variable size. Primaries narrow, expanding outwardly, in females more equally broad. Costal margin slightly arched, termen oblique. Ground colour of the forewing grey whitish, grey brown and sometimes heavily dusked. Pattern in most cases distinctly marked, darker than the ground sometimes, however, there occur uniformly coloured specimens. Antemedial band narrow, the medial one frequently interrupted. A terminal speck or small dark cloud on the outer portion of the wing. Secondaries grey brown, somewhat darkened in the apical area and along the peripheries. Fringes fairly pale.

Despite a considerable variability in colouring, several

distinct forms may be distinguished as follows:

Ab. leucotaeniana Schaw. Ground colour of the primaries

pale, the bands distinctly edged.

F. bergüniana RAZ. It differs from the typical form by the structure of its female genital armature. I have examined only a few specimens of this form and for this reason I do not deside about its systematical value. The structure of genitalia will be described further. The form in question resembles C. chrysantheana (DUP.). Primaries long and of about equal width. Ground colour dark, brown grey; pattern fairly distinct, darker than the ground. Length of the forewing 9 mm.

F. atticana RAZ. It differs from the typical form by its shorter and somewhat broader forewing. Uniformly milky white coloured specimens resemble somewhat *C. abrasana* (Dup.). Length of the forewing 7 mm., whilst in the typical from it is 5—5,8 mm.

Male genital armature: valva narrow, characteristically curved upwardly, terminally somewhat rounded; uncus long and thin; socii large, narrow; gnathos very long; sacculus does not reach half the length of valva; aedeagus slender, terminally pointed.

Female genital armature: labia narrow, gonapophyses anteriores and posteriores long; ductus bursae rather short;

lamella antevaginalis very small. C. incertana f. bergüniana RAZ. differs from the typical form by its broader and larger signum.

C. incertana (TR.) is distributed in all Europe, except the northern districts; in Asia Minor, Transcaucasia and North Africa. It appears in June and July. Caterpillar dark green, brown black or blackish, with minute tubercles; head yellow brown, bordered with black; plates black. It feeds in April, and May among joined leaves on Chrysanthemum L., Lotus L., Ranunculus L., Primula L., Plantago L., Urtica L., Polygonum L., Saxifraga L., and various other plants.

### Examined material:

Spain: several spec.: "Sierra de Alfacar 28 VI", "Sn. Ildefonso", "Valesia" (coll. Zool. Mus. Humb. Univ., Berlin). — Great Britain: 3 spec. "Anglia DBLD. [Doubleday]". — Switzerland: holotype of f. bergüniana RAZ. labelled "Bergün, Helvetia 7 VII 1872" (coll. I. Z. P. A. S., Warszawa). — Italy: "Sardinia" (coll. Zool. Mus. Humb. Univ., Berlin); "Mezzolombardei, leg. Dennehl(coll. S. Toll); "Emilia Casinalbo, 18 V 1941, A. Fiori" (a lot of spec. from coll. A. Fiori and author); "Emilia, Ravone, 21 V [19]22", "Bologna, Croara 24 V [19]35, A. FIORI" (author's coll.); Tempio Paus. Sardegna 12 V 1933, H. G. AMSEL" (coll. H. G. AMSEL). — Yugoslavia: 3 spec. "Dalmatia Cuciste, RBL. [REBEL], 1891" (coll. I. Z. P. A. S., Warszawa). — Greece: Several spec. from Attica, 15—17 IV 1867 — f. atticana RAZ. Holotype labelled "Attica 16 IV [18]67" in coll. Zool. Mus. Humb. Univ., Berlin, one paratype in author's coll. - Germany: 2 spec. "München" (coll. Zool. Mus. Humb. Univ., Berlin); "Buchenberg, Schwarzwald, 25 VI 1952, H. G. AMSEL" (coll. H. G. AMSEL); several spec.: Schlezwig Holst. (coll. Zool. Mus., Kiel). — Poland: many spec. from Zakopane, 900 m. alt., Pieniny Mts., Kraków and environs, Stemplew z. Kaliska, Jamy distr. Grudziądz, taken in V and VI (coll. I. Z. P. A. S., Warszawa, S. Toll, and author). — USSR: "Scianka Hłody pow. Borszczów, 26 V 1937", coll. S. Toll; 5 spec. "Caucas", "Krimm", "Uralis" (coll. Zool. Mus. Humb. Univ., Berlin).

### Subgenus: Cnephasia Curtis s. str., 1826

Typus subgeneris: Olethreutes pascuana Hübner, 1822

Cnephasia Curtis, 1826, Brit. Ent. 3, expl. t. 100.

In male genital armatures sacculus fully developed; aedeagus coalescent with anellus plate by a long, narrow piece. In female genital armatures labia wide, clothed with short hairs. The latter, are partially of equal width, some of them—thickened at their tips; lamella antevaginalis and lamella subgenitalis well developed.

### Cnephasia (Cnephasia) cinareana Chrétien, 1892

[Pl. XVIII, fig. 14, pl. XXXVII, fig. 173, pl. LVI, fig. 258]

Cnephasia cinareana Chrétien, 1892, Naturaliste: 132; Cnephasia cinereana (err.) Meyrick, 1912, Wagners's Lep. Cat. 10: 47; Filipjev, 1934, Bull. Acad. Sci. USSR, 1934: 1408; Filipjev, 1935, Zschr. Oesterr. Ent. Ver. 20: 55; Cnephasia pulmonariana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 61, fig. 5; Obraztsov, 1956, Tijdschr. Ent. 99: 109; Obraztsov, 1956, Tijdschr. Ent. 99: 115; Cnephasia cinareana Razowski, Acta Zool. Crac. 2: 574, pl. 55, fig. 17, 18, pl. 58, fig. 37, pl. 61, fig. 51.

Primaries elongated, slightly expanding outwardly. Costal margin in the basal part curved more than in its remaining part. Alar apex distinctly rounded; termen oblique. Ground colour of the forewing grey, grey brown, sometimes with yellow tint. Pattern distinct, more brown; basal spot reduced to a band, or indistinct cloud, the latter is more distinct in its central portion than along the peripheries; medial band pronounced; outer area of the wing dusked; terminal speck and the second one, situated below the costa, frequently well marked. Sometimes, there occur dark markings on the pattern. The ground powdered with dark scales, or transversally, dark stripped. Fringes concolorus with the ground, tinged with brown below alar apex. Secondaries grey brown, a little darkened along the peripheries. Fringes concolorous with the adjacent part of the wing. Forewing 10—12 mm, long.

Male genital armature easily distinguished by its sacculus, which is completely attached to the valva. The tip of sacculus minutely haired, not separated. Valva elongated, rounded terminally; uncus long and thin; socii large; gnathos narrow; aedeagus slender with narrowed and acuminate tip. The size of genital apparatus variable.

Female genital armature: labia wide, gonapophyses anteriores and posteriores thick; lamella antevaginalis consisting of two parts which are distinctly separated by ostium bursae and pointed at their ends. Introitus vaginae weakly sclerotized,

provided only with heavily sclerotized ring. Ductus bursae long and narrow; bursa copulatrix large; signum very long and narrow.

40

The species is recorded from France, Austria, Caucasus and Asia Minor.

Examined material:

France: "Montpellièr", coll. Zool. Mus. Humb. Univ., Berlin; "Cnephasia cinareana Chrét. Paratype, Artichant de Carcas, 17 VI [18]91", coll. Mus. Nat. Hist., Paris — Austria: "Prater, 29 VI", coll. Übersee Mus., Bremen — Several spec. without locality, labelled "H.-Sch., Chrysantheana Dup.", "H.-Sch.", "coll. Led.", coll. Zool. Mus. Humb. Univ., Berlin.

### Cnephasia (Cnephasia) fulturana Rebel, 1940

Cnephasia fulturana (FILIPJEV in litt.) REBEL, 1940, Bull. Soc. Fouad Ier Ent. 24: 36, fig. 11, 12; Obraztsov, 1956, Tijdschr. Ent. 99: 113.

I know this species only from a rather short original description and photographs of two type specimens which Rebel gave in his paper. Judging from these data the species *C. fulturana* Rebel should be considered as related to *C. hellenica* Obr.

C. fulturana Rebel is recorded from Granada and Algeria. It appears in May and probably in June.

# Cnephasia (Cnephasia) sareptana sp. nov. 3

[Pl. XVIII, fig. 15, pl. XXXVII, fig. 174]

Forewing slightly expanding outwardly, costal margin delicately arched, apex rounded, termen slightly oblique. By the colouring the new species comes near *C. abrasana* (Dup.). *C. sareptana* n. sp. is described from three måle specimens. They are nearly uniformly grey brown, and only one of them has a trace of the pattern on the costa of the forewing. Secondaries grey brown and somewhat darkened along the peripheries. Forewing 9 mm. long.

The systematical position of the species discussed seems to be near C. constantinana RAZ. and C. uniformana CAR.; that follows from the comparison of the male genital arma-

tures. The above mentioned problem cannot be explained, as only the male of this species is hitherto known.

Male genital armature: valva narrow and long; sacculus long and thin with a rather long, separate tip; aedeagus slender, strongly curved in half its length; anellus plate deeply incised. The aedeagus and anellus connected by a very long piece. Uncus long; socii thin and elongated; gnathos narrow.

Early stages unknown.

Type material consists of three male specimens from USSR: Holotypus — "Rossia m. Sarepta, 1867, Chr[istoph]", Prep. Nr. T. 81. Paratypes — "Rossia m., Sarepta, Chr[istoph], 1869", Prep. Nr. T. 83 and "Rossia m., Sarepta, Chr[istoph], 1867", prep. nr. T. 82 (coll. I. Z. P. A. S., Warszawa).

### Cnephasia (Cnephasia) crassifasciana Joannis, 1920

[Pl. XVIII, fig. 16]

Cnephasia crassifasciana Joannis, 1920, Bull. Soc. Ent. France 1920: 143; Obraztow, 1956, Tijdschr. Ent. 99: 112.

The systematical position of this species may be erroneous, because of lacking genital armature of the type. The genital-slide of this type has been lost after it had been sent to FILIPLEY for examination.

Primaries narrow, costal margin arched at the alar base, further on almost straight; termen oblique. Ground colour of the forewing grey, tinged ashy below the medial band. The basal area of the wing dusked; antemedial band curved outwardly, touching dorsal margin; medial band broad, markedly edged inwardly, strongly concave just a little below its middle. Terminal speck rather dictinct. An elongated speck and a row of dark dots bellow the costa. Secondaries elongated, grey brown, fairly bright; fringes more paler. Forewing about 8 mm. long.

The species is reported from North-Western districts of France.

I have examined only the type. It is labelled "Type, St. Laens 14 VII" (coll. Mus. Hist. Nat., Paris).

### Cnephasia (Cnephasia) alfacarana RAZOWSKI, 1958

[Pl. XIX, fig. 17, 18, pl. XXXVII, fig. 175, pl. LVI, fig. 259]

Cnephasia alfacarana Razowski, 1958, Acta Zool. Crac. 2: 578, pl. 56, fig. 22, pl. 58, fig. 40, pl. 61, fig. 53.

Costal margin of the forewing arched at the alar base, further on nearly straight; termen oblique. There is a great similarity in the external appearance of the above mentioned species and *C. communana* (H.-S.). Ground colour of the forewing grey, tinged with whitish or brownish; pattern much darker and distinct. Basal band curved outwardly and not touching the dorsal margin of the wing. Medial band oblique, more distinct in its costal part. Secondaries in their shape and colouring similar to those of *C. communana* (H.-S.).Forewing in females somewhat shorter than in males. Forewing 8—10 mm. long.

Male genital armature: valva elongated with rounded tip; sacculus attached to the valva to the half of its length; the separate tip of sacculus lies on the valva; uncus long; socii large and rather narrow; gnathos tipped with a wide plate; aedeagus wide basally and tapering terminally.

Female genital armature differs distinctly from that of *C. communana* (H.-S.) by its structure. Introitus thin, weakly sclerotized, merely with a narrow, heavily sclerotized ring; lamella antevaginalis broad; ductus bursae narrow, fairly long; bursa copulatrix large; signum wide.

Early stages unknown.

The species discussed occurs in Spain (Sierra de Alfacar). It appears in June.

Examined material:

Holotype — "Sierra de Alfacar, 17 VI, Holotypus", allotype — "Sierra de Alfacar, Allotypus" — coll. Zool. Mus. Humb. Univ., Berlin; 1 paratype — "Sierra de Alfacar, 15 VI, Paratypus", author's coll.

# Cnephasia (Cnephasia) cupressivorana Staudinger, 1871

[Pl. XIX, fig. 19, 20, pl. XXXVII, fig. 176, pl. LVI, fig. 260]

Sciaphila cupressivorana Staudinger, 1871, Horae Soc. Ent. Ross. 7 (1870): 215; Tortrix cupressivorana Kennel, 1910, Pal. Tortr.: 208, pl. 10, fig. 49; Cnephasia cupressivorana Toll, 1953, Pol. Pis. Ent. 22 (1952): 127,

pl. 3, fig. 14, 14 a; Obraztsov, 1956, Tijdschr. Ent. 99: 113. Razowski, 1958, Acta Zool. Crac. 2: 580.

ab. apenninicola Obraztsov, 1950.

Cnephasia appenicola (err. typ.) Obraztsov, 1950, Eos 26: 309; Cnephasia apenninicola Obraztsov, 1950, Eos 26: 310, fig. 7 a; Obraztsov, 1956, Tijdschr. Ent. 99: 113.

? ab. orthoxyana RÉAL, 1951.

Cnephasia cupressivorana Lhomme, 1939, Cat. Lép. France & Belg. 2: 278; Cnephasia orthoxyana Réal, 1951, Bull. Mens. Soc. Linn. Lyon 20: 224, fig. 1, 2 (\$\varphi\$ genit.); Cnephasia orthoxyana f. ind reducta Réal, 1951, Bull. Mens. Soc. Linn. Lyon 20: 225; Cnephasia orthoxyana f. ind. styx Réal, 1951, Bull. Mens. Soc. Linn. Lyon 20: 225; Cnephasia orthoxyana f. ind confluentana Réal; 1951, Bull. Mens. Soc. Linn. Lyon 20: 225; Cnephasia orthoxyana Obraztsov, 1956, Tijdschr. Ent. 99: 112.

The question of including forms described by Obraztsov and Réal to C. cupressivorana (Stgr.) has been discussed in a previous paper (1958). After having studied the types of Cnephasia orthoxyana RÉAL I found no distinct differences in male, as well as in female genital armatures in comparison to C. cupressivorana (STGR.). The male genital armature of C. orthoxyana Réal presented by Obraztsov (1950) does not differ from that of C. cupressivorana (STGR.) either. The latter is a rather variable species in its external appearance. I have examined many very bright specimens, concolorous with C. sedana (Const.), as well as various intermediate ones, up to strongly darkened, brown black ones, nearly uniformly coloured without any pattern. The shape of the wings is also variable, however, less than their coloration. In regard with this matter, there are considerable differences between both sexes. The variability of the genital armatures will be discussed further.

Primaries expanding outwardly, costal margin more or less arched, alar apex rounded, termen oblique, the last in females more slant than in males. Ground colour of the forewing grey to brown, pattern usually well developed, darker than the ground, frequently tinged black along the wing peripheries. The basal band distinctly remote from the alar base, curved outwardly and isolated from the dorsal margin. Medial band fairly narrow, frequently interrupted. Terminal speck faintly marked. A row of dark minute dots or a long dark cloud at the termen. Secondaries grey brown, dusked in the apical

area and along the peripheries, fringes rather bright. Forewing up to 12 mm. long.

Ab. apenninicola OBR. Males: ground colour of the primaries grey brown, sometimes with blue tint. Pattern also brightened, more grey than in the typical form. Females probably concolorous with the typical form.

? Ab. orthoxyana Réal. I have seen dark coloured, grey brown typical specimens of this problematical form.

Male genital armature: valva variable in its shape, narrow and elongated, frequently broadened before its apex. Sacculus variable, thin and long, extending beyond half the length of valva, frequently upturned toward the dorsal edge of the latter. The separate tip of sacculus extends beyond the ventral edge of the valva. Uncus long, socii large, gnathos strongly elongated. Aedeagus broadened basally and terminally; anellus small.

Female genital armature: lamella antevaginalis large, its lateral parts elongated and pointed. Ostium bursae rounded; introitus vaginae somewhat broader and more heavily sclerotized than the ductus bursae. Signum large.

The above mentioned species is distributed alongside the shores of Mediterranean Sea (form Spain to Turkey), as well as in France, Austria, Roumania and Asia Minor. C. cupressivorana ab. apenninicola OBR. probably appears everywhere where the typical form occurs, I have only seen, however, the specimens from Austria, Greece and Sardinia. The species appears in April, May and June, seldom in March. Caterpillar feeds among the joined leaves of Scrophularia L., Armeniaca Mill (Réal, 1951), and cypress (Staudinger, 1871). However, it would be necessary to dissolve this problem.

Examined material:

France: several spec. from Ecully, V 1905—1911, coll. Soc. Linn. Lyon; 1 spec. from Digne, IV 1896, coll. H. G. Amsel — Italy: 2 spec. from Sardinia (Tempio Paus. and Aritzo) IV—V, 1933, leg. H. G. Amsel, coll. Übersee Mus. Bremen; several spec. from Emilia, Bologna, V, leg. A. Fiori, coll. A. Fiori and author — Yugoslavia: 1 spec. from Fiume, 4 V, coll. Mag. Nem. Mus. Budapest; 2 spec. from Fiume IV 1905, coll. S. Toll — Greece: 1 spec. "Parnass, 25 III 1865", cool. Zool. Mus. Humb. Univ., Berlin — Austria: 2 spec. "Austria, 1864, Mn., coll. I. Z. P. A. S., Warszawa.

### Cnephasia (Cnephasia) communana Herrich-Schäffer, 1851

[Pl. XIX, fig. 21, 22, 23, pl. XXVIII, fig. 178, pl. LVI, fig. 261]

Sciaphila wahlbomiana (part.) DUPONCHEL, 1836, Hist. Nat. Lép. France 9: 391, pl. 256, fig. 4 b; ? Cnephasia sinuana (non Stephens) Westwood & Humphrey, 1845, Brit. Moths 2: 141, pl. 88, fig. 6; Sciaphila communana Herrich-Schäffer, 1851, Syst. Bearb. Schmet. Eur. 4: 200 (1847, Tortr. pl. 16, fig. 113, 114, non binom.); ? Sciaphila minorana (part.) Herrich-Schäffer, 1851. Syst. Bearb. Schmet. Eur. 4: 201; ? wahlbomiana Herrich-Schäffer, 1847, Syst. Bearb. Schmett. Eur., pl. 15, fig. 107, non binom.; Sciaphila wahlbomiana LEDERER, 1859, Wien. Ent. Mnschr. 3: 252; Cnephasia virgaureana (part.) Meyrick, 1912, WAGNER'S Lep. Cat. 10: 47; Cnephasia alticolana MÜLLER-RUTZ, 1929, Mitt. Schweiz. Ent. Ges. 14: 129, pl. 1, fig. 6 a, pl. 2, fig. 6 b (& genit.); Tortrix wahlbomiana Kennel, 1910, Pal. Tortr. pl. 10, fig. 47; Cnephasia communana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 12, pl. 5; Adamczewski, 1936, Ann. Mus. Zool. Pol. 11: 270, pl. 33, fig. 3, 4, pl. 35, fig. K. 44, pl. 37, fig. K. 32; Benander, 1950, Svensk Insektf.: 45, fig. 6 m; Obraztsov, 1950, Eos 26: 310, fig. 7 a (& genit); Réal, 1953, Bull. Mens. Soc. Lin. Lyon 22: 59; Bradley & Martin, 1956, Ent. Gaz. 6; Obraztsov, 1956, Tijdschr. Ent. 99: 112; Razowski, 1957, Acta Zool. Crac. 1: 129, pl. 19, fig. 2, pl. 22, fig. 6, pl. 25, fig. 6.

Ab. lucia RÉAL, 1953.

Cnephasia (C.) communana f. ind. lucia Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 59.

Ab. caprionica RÉAL, 1953.

Cnephasia (C.) communana f. ind. caprionica Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 59.

Ab. seminigra RÉAL, 1953.

Cnephasia (C.) communana f. ind. seminigra RÉAL, 1953, Bull. Mens. Soc. Linn. Lyon 22: 59.

Ab. pseudorthoxyana Réal, 1953.

Cnephasia (C.) communana f. ind. pseudorthoxyana Réal, Bull. Mens. Soc. Linn. Lyon 22: 59.

Primaries narrow and elongated, slightly expanding outwardly, in females shorter and broader than in males; alar apex rounded, termen oblique. Ground colour of the forewing grey, grey white or grey brown, more or less tinged dark. Pattern usually distinctly marked, darker than the

ground. Basal band narrow, visibly isolated from the dorsal margin of the wing. Medial band frequently interrupted. The other markings on the forewing similar to those of allied species. Secondaries fairly bright, grey brown with paler fringes. Forewing up to 11 mm. long.

Ab. lucia Réal. Ground colour of the primaries white, pattern distinctly marked. A scarce form.

Ab. caprionica Réal. Primaries with a more distinct pattern, in their colouring, however, similar to the typical form.

Ab. seminigra RÉEAL. The bands on the primaries diffused, ground colour much paler than that of the typical form.

Ab. pseudorthoxyana RÉAL. The males resemble the form C. cupressivorana ab. orthoxyana RÉAL.

The species occurs in all Europe, as well as in North Africa, Asia Minor and Siberia. It appears from May, through June and July. Caterpillar feeds on *Rumex* L., *Lotus* L., *Chrysanthemum* L., *Plantago* L. and other plants.

Male genital armature: valva elongated; sacculus about as long as half of the valva, its separate tip short; uncus long; socii large; aedeagus nearly straight, except at the base.

Female genital armature: lamella antevaginalis characteristic by its narrow and elongated lateral parts; introitus vaginae and lamella vaginalis form a rosette - shaped figure; ductus bursae short; signum long.

### Examined material:

Spain — several spec. from San Ildefonso, Malaga and Valesia cóllected in April and May (coll. Zool. Mus. Humb. Univ., Berlin); Italy — several spec. from Emilia, Bologna, leg. A. Fiori (coll. A. Fiori); Austria 4 spec. "Oberkrain, 1—10 V 1943, leg. Dennehl" (coll. S. Toll.); Germany — 10 spec. from Kiel taken in May and June (coll. Übersee Mus., Kiel); Hungary — 1 spec. "Törökbálint, 6 V 1930, A. Schmidt"; 1 spec. "Bukadeszi Hársbokorhegy, 18 V 1953, Dr. Gozmány" (coll. Mag. Nem. Muz., Budapest); Poland — about 150 spec. from Tatry Mts., Pieniny Mts., Ustroú ad Cieszyn, Tul ad Cieszyn, Równica, Kraków, Katowice, Zawiercie, Stemplew, Jamy distr. Grudziądz, Bydgoszcz, Ostromęcko, Strzelewo distr. Bydgoszcz, Kowanówko distr. Oborniki, Kobylepole ad Poznań, taken in May, June and July (coll. I. Z. P. A. S., Warszawa and Kraków, coll. S. Toll, and author's coll.); USSR — several spec. from Podolia: Ubierzowa distr. Zaleszczyki, Babińce ad Krzywcza, Ścianka Chłody distr. Borszczów, 24 V and 1 VI 1937 (coll. S. Toll).

# Cnephasia (Cnephasia) parnassicola Razowski, 1958

[Pl. XIX, fig. 24, pl. XXXVIII, fig. 179, pl. LVII, fig. 262]

Cnephasia parnassicola Razowski, 1958, Acta Zool. Crac. 2: 581, pl. 56, fig. 25, pl. 59, fig. 43, pl. 62, fig. 59.

Primaries considerably broad, costal margin slightly arched, alar apex rounded, termen oblique. Ground colour of the forewing pale, somewhat darkened on the basal area; pattern distinct, somewhat darker than the ground, grey brown, darkened along the wing peripheriss. The outer part of basal spot distinct, the inner one reduced. Medial band and terminal speck distinct. Fringes concolorous with the ground. Secondaries grey brown, fringes concolorous. The pattern in the females more distinct than in the males. Forewing 10,5 mm. long.

Male genital armature similar to that of *C. communana* (H.-S.). Valva large; sacculus thin, about as long as half the length of valva; aedeagus straight except at the base; uncus long; gnathos and socii similar as in *C. communana* (H.-S.).

Female genitalia: labia broad; gonapophyses anteriores and posteriores shorter than in *C. communana* (H.-S.); lamella antevaginalis similar to that of *C. communana* (H.-S.), consisting of two long pieces; ostium bursae round and broad; introitus vaginae broad and short; ductus bursae just a little beyond instroitus vaginae broad, further thin and short; signum narrow.

The species is recorded from Greece and Spain only.

# Cnephasia (Cnephasia) laetana (Staudinger, 1871)

[Pl. XX, fig. 25, 26, pl. XXXVIII, fig. 177, pl. LVII, fig. 263]

Sciaphila laetana Staudinger, 1871, Berl. Ent. Z. 14 (1870): 275; Steganoptycha delitana (part.) Rebel, 1901, Stgr.-Reb. Cat. 2: 110; Cnephasia laetana Chrétien, 1903, Naturaliste 25: 11—12; Cnephasia laetana Obraztsov, 1952, Zeit. Lep. 2: 37, fig. 1; 1956, Tijdschr. Ent. 99: 112.

Primaries in the male expanding outwardly, costal margin slightly arched, termen oblique. Ground colour of the forewing white, delicately tinged grey on the basal area. The basal spot absent in its place, however, there runs a band which is arched

outwardly and isolated from the dorsal margin. The medial band distinctly marked, in its central portion twice narrowed. The spot lying below the costal margin amalgamated with a second one, occurring at the termen. They form a third band, which is fairly parallel to the basal and medial bands. Termen edged with dark. The pattern on the forewing grey black. The fringes paler than the ground. Secondaries grey brown, darker on the alar apex and along the peripheries than in the central area; fringes somewhat paler than the ground. Forewing about 10 mm. long.

Male genital armature: valva strongly elongated, of about equal width on its whole length; sacculus short, its part attached to the valva straight, but the detached one curved; uncus long and thin; socii narrow; gnathos tipped with a broad plate; aedeagus narrow, of equal width almost on its whole length, terminally pointed.

Only the male of this remarkable species is hitherto known. The species is recorded from Spain only.

Examined material:

1 male labelled: "S. Gredos, Garg. Pozas, Cast., 1900 m., 15 VII 1934, ex coll. Reisser, GU.: 3072" (coll. H. G. Amsel).

### Cnephasia (Cnephasia) alticolana (Herrich-Schäffer, 1851)

[Pl.~XX,~fig.~27,~pl.~XXXVIII,~fig.~180,~pl.~LVII,~fig.~264]

Tortrix wahlbomiana (part.) ZINCKEN, 1821, CHARPENTIER'S Zinsler, Wickler: 81; Tortrix asseclana Charpentier, 1821, Charpentier's Zinsler Wickler: 83; Tortrix wahlbomiana Hübner, 1811—13, Samml. Eur. Schm. Tortr. pl. 32, fig. 203; Olethreutes wahlbomiana Hübner, 1822, Syst. alph. Verz.: 66; Sciaphila alticolana Herrich-Schäffer, 1851, Syst. Bearb. Schm. Eur. 4: 200 (1847, Tortr. pl. 16, fig. 112, non binom.); Cnephasia virgaureana Meyrick (part.), 1912, Wagners Lep. Cat. 10: 47; Cnephasia alticolana var. branderiana Franz, 1943, Denkschr. Akad. Wien, mat.-nat. Kl. 107: 192; Cnephasia alticolana Adamczewski, 1936, Ann. Mus. Zool. Pol. 11: 276, fig. 1 b, pl. 32 fig. 1—3, pl. 34, fig. T. 109, T. 116, T. 118; Cnephasia alticolana Razowski, 1957, Acta Zool. Crac. 1: 128, pl. 18, fig. 1, pl. 22, fig. 1.

Ab. juncta RÉAL, 1953.

Cnephasia (C.) alticolana f. ind. juncta Réal, 1953, Bull. Soc. Linn. Lyon 22: 59.

Ab. decaryi Réal, 1953.

Cnephasia~(C.)~alticolanaf. ind. decaryiRéal, 1953, Bull. Soc. Linn. Lyon ${\bf 22:}~{\bf 59.}$ 

Primaries large, expanding outwardly, in males more triangular, in females sometimes even equal in their width; costal margin almost straight, alar apex rounded, termen oblique. Ground colour of the forewing grey, grey brown, more or less darkened, sometimes even brown black. Pattern generally distinct, markings broad and darker than the ground; basal spot moreor less pronounced, or, more frequently a band touching usually dorsal margin appears on the basal area of the wing; medial band more or less broad, twice narrowed in its central part; the spot below the costa sometimes connected with a second one situated at the termen; a row of dark specks at the termen. The ground and the pattern very often sprinkled with minute, dark, transversal streaks. The uniformly coloured specimens usually darkened, and above mentioned sprinkling is in that case distinct. Fringes of the primaries grey to grey brown. Secondaries broad, grey brown, darkened along the peripheries and in the apical area; fringes fairly bright, whitish or grev. Forewing in male 9-11 mm. and in female 8-10 mm. long.

Male genital armature: valva narrow and long, of about equal width on whole of its length; sacculus long and thin, reaching beyond three-quarters of valva length; aedeagus broad, except at its base; uncus long and thin; socii large.

Female genital armature: lamella antevaginalis broad; gonapophyses anteriores and posteriores short and considerably thick; introitus vaginae broad; ductus bursae short; signum large.

Ab. juncta Réal. To this form belong darkly coloured specimens, with a partly amalgamated pattern.

Ab. decaryi Réal. Ground colour of the primaries bright, in major part white; pattern consisting of dark, transversal bands.

Early stages unknown.

C. alticolana (H.-S.) was considered hitherto as a mountainous element I have captured it, however, in lowland, in dry, as well as in damp localities. The species appears in Acta Zoologica nr 6

lowland in May and June, but in the mountainous regions till the first days of August.

Examined material:

Switzerland — 1 spec. "Helvetia, Engadin, 1870", 1 spec. "Helvetia, Bergün, 7 VII 1872" (coll. I. Z. P. A. S., Warszawa); 1 spec. "Schweiz, alticol. H.-Sch.", 1 spec. "Ob. Engadin" (coll. Zool. Mus. Humb. Univ., Berlin); 1 spec. "Helvetia, Bergün, 29 VI 1869" (coll. S. Toll.). — Italy — 1 spec. "Rhaetia", 1 spec. "Macugnaga, 14 VII", 1 spec. "Trafoi m." (coll. Zool. Mus. Humb. Univ., Berlin); 1 spec. "Gomagoi", 16—30 VI [19]28, leg. Amsel" (coll. H. G. Amsel). — Austria — 2 spec. "Austria, 1864, Mn[Mann] (coll. I. Z. P. A. S., Warszawa, and coll. S. Toll.); 2 spec. "Carynthia" (coll. I. Z. P. A. S., Warszawa). — Germany — 1 spec. "Favorita, Baden" (coll. I. Z. P. A. S., Warszawa). — Poland — about 70 spec. from Tatry Mts., Kraków, Pieniny Mts., Dulowa distr. Chrzanów, Katowice, taken in May, June and July (coll. I. Z. P. A. S., Kraków, S. Toll, R. Żukowski and author). — Hungary — 1 spec. "Szomolnok, Riedl, 10 VI 1910" (coll. Mag. Nem. Muz., Budapest). — Yugoslavia — 5 spec. "Veldes Oberkrain, 1—10 [19]43, Dennehl" (coll. S. Toll.).

### Cnephasia (Cnephasia) virgaureana (Treitschke, 1835)

[Pl. XX, fig. 28, pl. XXXVIII, fig. 181, 182, pl. LVII, fig. 265]

Phalaena Tortrix asseclana Schiffermüller & Denis, 1776, Syst. Verz.: 131; Tortrix interjectana Haworth, 1811, Lep. Brit.: 464; Sciaphila virgaureana Treitschke, 1835, Schm. Eur. 10/3: 89, 253; Cnephasia virgaureana Westwood & Humphreys, 1845, Brit. Moths 2: 142, pl. 88, fig. 10; Sciaphila musculana (part.) DUPONCHEL, 1846, Cat. Méth. Lép. Eur.: 298; ? Sciaphila wahlbomiana Herrich-Schäffer (non Linnaeus), 1863, Corr. Bl. zool.-min. Ver. Regensburg 17: 125; ? Sciaphila alticolana (part.) WOCKE, 1871, STGR.-WOCKE Cat.: 241; Tortrix oleraceana Gibson, 1916, Can. Ent. 48: 373; ? Cnephasia octomaculana (non Stephens) Petersen, 1924, Lep. Fauna Estl.: 431; Cnephasia virgaurenana (err. typ.) Betinck, 1936, Tijdschr. Ent. 79: 206; Tortrix wahlbomiana Kennel, 1910, pl. 10, fig. 46; Cnephasia virgaureana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 12, pl. 5; ADAMCZEWSKI, 1936, Ann. Zool. Pol. 11: 265, 273, pl. 35, fig. K. 2, T. 150, T. 124, pl. 37, fig. T. 133, T. 155 (3 \, \, \, \, \, \) genit.); Benander, 1950, Svensk Insektf.: 45, textfig. 6 p. (3 \, \, \, \, \) genit.); Cnephasia (C.) interjectana Réal, 1953, Bull. Soc. Linn. Lyon 22: 59; Cnephasia virgaureana Obraztsov, 1956, Tijdschr. Ent. 99: 114; Razo-WSKI, 1957, Acta Zool. Crac. 1: 127, pl. 17, fig. 3, 4, 4 a, pl. 22, fig. 1, pl. 25, fig. 6.

Ab. mediocris (non MEYRICK) RÉAL, 1953.

Cnephasia (C.) virgaureana f. ind. mediocris Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 60.

Ab. latior RÉAL, 1953.

Cnephasia (C.) virgaureana f. ind. latior Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 60.

Ab. confluens Réal, 1951.

Cnephasia (C.) virgaureana f. ind. confluens Cleu, 1951. Rev. Franc. Lép. 13: 159, nom. n.; Réal, 1952, Bull. Mens, Soc. Linn. Lyon 21: 220.

Primaries fairly short, in males more expanding outwardly than in females. Costal margin arcuate; alar apex delicately rounded; termen oblique. A very variable species. The ground colour of the primaries grey to grey brown with dark, transversal stripping, occasionally strongly darkened. The pattern dark brown, or even brown black; basal spot marked as a band usually isolated from the dorsal margin; medial band is the most pronounced component of the pattern, broad and brightly edged inwardly. The outer area of the wing unicoloured or spotted. Fringes somewhat darker than the ground, sometimes with a very distinct, dark stripping. There occur completely unicolorous dark brown or brown black specimens, too. Secondaries dark grey brown, fringes concolorous. Wings expanse 11,6—17,6 mm. The males are smaller than the females.

Male genital armature: valva of variable shape, broad; sacculus variable, attached to the valva on one-third to three-quarters of its length; the separate tip of sacculus extends sometimes beyond the apex of valva; aedeagus short, and strongly tapered and acuminate terminally, its shape is constant; uneus long; socii fairly small.

Female genitalia: introitus vaginae broad, weakly sclerotized; lamella antevaginalis broad; ductus bursae short; signum big, drop-shaped.

Ab. mediocris Réal. Small specimens characterized by their light colour and short basal band on the primaries.

Ab. latior Réal. A form differing from the typical one by its broader wings and deeply darkened colouring.

Ab. confluens Réal. The medial and basal band in the primaries amalgamated.

The species discussed is distributed in all Palaearctic region, as well as in Newfoundland. It appears in June and July. The second generation occurs only sporadically.

The larva bluish white or bluish grey, tinged with darker

or reddish from the dorsal side. Tubercles big, black. Head and plates black. The thoracic plate divided with yellowish and edged with light outwardly. Prolegs black. The larva feeds among joined leaves and in the flowers of various plants, namely: Alchemilla L., Anchusa L., Antennaria GAERTN., Arthemisia L., Chenopodium L., Medicago L., Pisum L., Stachys L., Veronica L., Vicia L., Solidago L., Linaria MILL., Geum L., Mentha L., Salvia L. and others.

Examined material:

Spain — 1 spec. "Sn. Ildefonso" (coll. Zool. Mus. Humb. Berlin) — Italy — several spec. from the environs of Bologna (coll. A. Fiori and author); I spec. "Macugnaga" (coll. Zool. Mus. Humb. Univ., Berlin); 1 spec. "Gomagoi, Stilfs Joch, 10-30 VI 1928" (coll. H. G. Amsel) — France — 2 spec. "Gallia c. Burgund., 1890, Cst." (coll. I. Z. P. A. S., Warszawa) — Austria — 1 spec. "Biberg (Bisamberg), 13 VII 1943", 1 spec. "Teriolis mer. Bozen, leg. Dennehl" (coll. S. Toll); 1 spec. "Austria, 1864, Mn." (coll. I. Z. P. A. S., Warszawa) — Germany — 1 spec. "Regensburg, 1891, Hfm.", 1 spec. "Kalksfen, 3 VII 1889" (coll. I. Z. P. A. S., Warszawa); 1 spec. "Mürvik, 26 VII 1955", 2 spec. "Schl.-Holstein, Kiel, leg. MEDER" taken in June and July (coll. K. SATTLER) -Czechoslovakia — "Karlsbad, 5 VI 1890" (coll. I. Z. P. A. S., Warszawa) — Yugoslavia — 3 spec. "Veldes Oberkrain, 1—10, VI 1943", Dennehl" (coll. S. Toll) - Poland - about 80 spec. from Pieniny Mts., Czarny Dunajec distr. Nowy Targ (700 m. alt.), Rytro, Stary Sacz, Ustroń-Równica, Tuł ad Cieszyn, environs of Zawiercie, Baligród-Czarne, Jamy distr. Grudziądz, taken in June and July (coll. I. Z. P. A. S., Warszawa, Kraków; S. Toll, R. Żukowski and author) — USSR — several spec. from Western Podolia (Ubierzowa, Dźwinogród, Wołczków, Lwów) taken in June (coll. I. Z. P. A. S., Kraków and S. Toll).

# Cnephasia (Cnephasia) microstrigana RAZOWSKI, 1958

[Pl. XX, fig. 29, 30, pl. XXXIX, fig. 183, pl. LVII, fig. 266]

Crac. 2: 578, pl. 56, fig. 24, 25, pl. 59, fig. 41, pl. 62, fig. 56.

The species is characteristic by its conspicuous sexual dimorphism. Primaries in the male much broader than in the female; costal margin equally arched; alar apex rounded; termen slightly oblique. The ground colour grey brown, the pattern somewhat darker than the ground, usually faintly marked. The pattern in the typical specimens consisting of

a basal spot, a medial band and a terminal speck. Dark, intervenular lines besides the above mentioned markings. The fringes lighter than the pattern. The female: primaries considerably narrower and the termen more oblique than in the male; the pattern distinct; secondaries conspicuously brighter than the primaries; the fringes grey brown. Forewing 8—9 mm. long.

The species discussed is closely related to *C. virgaureana* (Tr.) as the comparison of their genitalia shows (this is especially evident in the females).

Male genital armature: valva broad, broadened and rounded terminally; sacculus attached to the valva on the whole of its length; the free tip of sacculus short; uncus thin and long; socii fairly big; aedeagus of about equal width, pointed terminally and bearing a swelling provided with minute teeth. By its shape the aedeagus resembles mostly that of *C. alticolana* (H.-S.), being, however, conspicuously narrower in *C. microstrigana* RAZ.

Female genitalia: lamella antevaginalis similar to that of *C. virgaureana* (TR.), being somewhat narrower and concave distally in *C. microstrigana* RAZ.; lamella subgenitalis broad, rounded proximally; gonapophyses anteriores and posteriores long and massive; labia broad; introitus vaginae about as long as ductus bursae, but considerably more sclerotized than the latter; bursa copulatrix big.

The species discussed is hitherto recorded from Spain (San Ildefonso) only.

Early stages unknown.

I have examined 7 males and 3 females labelled "Sn. Ildefonso" (coll. Zoll. Mus. Humb. Univ., Berlin and author).

# Cnephasia (Cnephasia) błeszyńskii Toll, 1953

[Pl. XX, fig. 31, pl. XXXIX, fig. 184]

Cnephasia bleszyńskii Toll, 1953, Pol. Pis. Ent. **22** (1952): 125, pl. 2, fig. 7, pl. 3, fig. 15 (& genit.); Obraztsov, 1956, Tijdschr. Ent. **99**: 115; Razowski, 1957, Acta Zool. Crac. 1: 129, pl. 18, fig. 4, pl. 26, fig. 4.

Only one male specimen (holotype) of this remarkable species is hitherto known.

Primaries of about equal width; costal margin slightly arched, alar apex rounded, termen oblique. Ground colour unicolorous brown grey. The wing with faint dark stripes in its outer area. Fringes a little paler than the ground. Secondaries fairly light, grey brown. Wings expanse 16 mm.

Genital armature: valva broadest in the middle of its length, strongly tapered beyond the sacculus; tegumen narrow; uncus long and fairly broad; socii very short; gnathos massive, terminated with a broad plate; aedeagus thin and bent.

Early stages unknown.

Holotype labelled "Duszniki, 1938" was obtained in the Sudety Mts. in Poland (coll. S. Toll).

### Cnephasia (Cnephasia) pascuana (Hübner, 1822)

[Pl. XX, fig. 32, pl. XXXIX, fig. 185, pl. LVII, fig. 267]

Tortrix logiana (non LINNAEUS) HAWORTH, 1811, Lep. Brit.: 464; Tortrix wahlbomiana ZINCKEN, 1821, CHARPENTIER'S Zinsler Wickler: 81; Olethreutes pascuana Hübner, 1822, Syst.-alph. Verz.: 63; Sciaphila pasivana Treitschke, 1835, Schm. Eur. 10/3: 253; Cnephasia obsoletana STEPHENS, 1829, Syst. Cat. Lep. Brit. 2: 181 nom. n.; Wood, 1832, Ind. Ent.: 148, pl. 33, fig. 1003; ? Cnephasia sinuana Wood, 1832, Ind Ent.: 148, pl. 33, fig. 999; Cnephasia pasivana Doubleday, 1850, Syn. List. Brit. Lep.: 24; Cnephasia pasivana Wood & Westwood, 1854, Ind. Ent. ed 2: 276, pl. 59, fig. 1830; Sciaphila communana (part.) Wocke, 1871, STGR.-WCK: Cat.: 241. nr. 780 d; Pascuana HÜBNER, 1796-99, Samml. Eur. Schm. Tortr. pl. 16, fig. 99 non binom; Tortrix pascuana ZELLER, 1878, Stett. ent. Ztg. 39: 101; Tortrix wahlbomiana Kennel, 1910, pl. 10, fig. 48; Cnephasia pasivana Pierce & Metcalfe, 1922; 11, pl. 4; Cnephasia pascuana Adamczewski, 1936, Ann. Mus. Zool. Pol., 11: 286, fig. 2, pl. 36, fig. K. 1, T. 1, 1, W. 2; Benander, 1950, Svensk Insektf.: 44, fig. 6 r; Cnephasia pseudotypica Réal. 1952, Rev. Franç. Lép. a 13: 220; Cnephasia (C.) obsoletana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 60; Cnephasia pascuana Toll, 1953, Pol. Pis. Ent. 22: 127, pl. 3, fig. 16, 16 a; Obraztsov, 1955, Tijdschr. Ent. 98: 218, 219, fig. 263—266; Obraztsov, 1956, Tijdschr. Ent. 99: 115; Cnephasia (C.) obsoletana RAZOWSKI, 1957, Acta Zool. Crac. 1: 128, pl. 18, fig. 1, pl. 22, fig. 2, pl. 26, fig. 1.

Ab. algerana Réal, 1953.

Cnephasia obsoletana var. algerana Réal 1953, Bull. Mens. Soc. Linn. Lyon 22: 61. Ab. cleuana Réal, 1952.

Cnephasia obsoletana var. cleuana Cleu, 1951, Rev. Franç. Lép. 13: 159, nom. n.; Réal, 1952, Rev. Franç. Lép. 13: 220.

Ab. obscurana (REUTER, 1900).

Sciaphila obscurana Reuter, 1900, Acta Soc. Fauna & Flora Fenn. 15 (1899): 46.

Primaries fairly narrow, elongated; costal margin arched, especially in its basal part; alar apex rounded, termen oblique. Ground colour rather variable, grey to grey brown, more or less darkened, sometimes as coloured as the pattern. The latter usually darker than the ground, but more brown. Basal area of the wing tinged with darker. Basal spot most frequently reduced to a band. Medial band more distinct, edged with lighter inwardly, the inner border of it straight. A small spot or a fairly large cloud in the terminal area of the wing. Fringes about as coloured as the ground. Secondaries elongated, grey brown, fringes a little lighter than the ground.

Ab. pseudotypica Réal. It differs from the typical form by the smeared pattern in the primaries.

Ab. cleuana RÉAL. The specimens of this form characterizes the uniform dark brown colouring and the pattern which is bordered with rows of almost dark dots. Recorded from Basses-Alpes and Hautes-Alpes.

Male genital armature; the length of sacculus and of its separate tip variable; the place of attaching of sacculus to the valva variable, thus shape of valva is variable too. Uncus long, fairly thin; socii short; gnathos-arms broad, terminal plate big; aedeagus bent, acuminate terminally.

Female genitalia: lamella antevaginalis broad, slightly concave in the middle of its distal edge; introitus vagines more sclerotized than ductus bursae, slightly laterally bent; ductus bursae short; signum slender.

This species is distributed in the Palaearctic region only. It appears from mid May to the end of July. Caterpillar feeds in May and June on *Echium L.*, *Ranunculus L.*, *Prunus L.*, *Thalictrum L.*, *Colchicum L.* and *Compositae*.

Examined material:

Switzerland — 1 spec. "Engadin, Semaden, VII 1871" (coll. I. Z. P. A. S., Warszawa) — Austria — "Ellmau, Tirol, Keiserbg. 27 VII 19[39]" (coll.

Mus. Kiel) — Germany — 7 spec. taken in June and July "Schl.-Holst. Kiel, Meder" (coll. Mus. Kiel) — Poland — 1 spec. from Zawiercie, 2 spec. from Stemplew and 2 spec. from Jamy, taken in June and July (coll. I. Z. P. A. S., Warszawa and S. Toll) — USSR — 3 spec. from Western Podolia (Lwów and Kleparów) taken in July by Klemensiewicz and Romaniszyn (coll. I. Z. P. A. S., Kraków).

# Cnephasia (Cnephasia) genitalana PIERCE & METCALFE, 1922 [Pl. XXI, fig. 33, pl. XXXIX, fig. 186, pl. LVIII, fig. 268]

? Sciaphila humerana Peyerimhoff, 1877, Pet. Nouv. Ent. 9: 101; Tortrix perterana Kennel (non Doubleday), 1910, Pal. Tortr. pl. 10, fig. 35; ? Cnephasia chrysantheana Meyrick, 1912, Wagner's Lep. Cat. 10: 47; ? Tortrix conspersana Kennel (non Douglas), 1910, Pal. Tortr.: 201, pl. 10, fig. 34; Cnephasia genitalana Pierce & Metcalfe, 1922; Genit. Tortr. Brit. Isl.: 12, pl. 5; Filipjev, 1934, Bull. Acad. Sci. USSR, 1934: 1408; Filipjev, 1935, Z. Oestrr. Ent. Ver. Wien 20: 55; Adamczewski, 1936, Ann. Mus. Zool. Pol. 11: 265, 268, fig. 2, pl. 36, fig. W. 1, R. 2; Benander, 1950, Svensk. Insektf.: 45; Cnephasia (C.) conspersana Réal, 1952, Rev. Franç. Lép. 13: 221; Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 58; Razowski, 1957, Acta Zool. Crac. 1: 129, pl. 19, fig. 1, pl. 22, fig. 5, pl. 26, fig. 5; Cnephasia genitalana Obraztsov, 1956, Tijdschr. Ent. 99: 116.

Ab. albicans Réal, 1953.

Cnephasia conspersana f. ind. albicans Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 58.

Ab. pseudoalternella RÉAL, 1953.

Cnephasia conspersana f. ind. pseudoalternella Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 59.

Ab. gallicana Réal, 1953.

Cnephasia conspersana ssp. gallicana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 58.

The size and colouration variable. Costal margin in the primaries slightly arcuate, alar apex acuminate (particularly in males), termen oblique. Females are bigger than males. Ground colour of the forewing grey or grey brown, more or less darkened; pattern more darker. Uniformly coloured specimens occur very frequently. Fringes about as coloured as the ground of the wing. Secondaries grey brown, fringes somewhat lighter. Forewing up to 9 mm. long.

Ab. albicans Réal. Primaries light grey. This character occurs more frequently in males than in females.

Ab. pseudoalternella RÉAL. Ground colour of primaries light, pattern dark, distinct.

Ssp. gallicana RÉAL. It resembles C. chrysantheana (Dup.) or C. virgaureana (Tr.) by the pattern of primaries. Distributed in the Central and Western France.

Male genital armature: valva broad especially in the middle of its length, beyond this place markedly tapering toward the apex. The shape of valva may vary depending on the pressure exerted on the preparation by the cover-glass. Sacculus very long, its separate tip extending far beyond the end of valva. The ratio of the length of uncus to the size of whole apparatus is more conspicuous than in the previous species. Socii and gnathos large. Aedeagus of similar structure as in C. pascuana (HBN.). Anellus plate broad.

Female genitalia: lamella antevaginalis broad, straight distally and arched proximally. Introitus vaginae heavily sclerotized, much more bent laterally than in the previous species. Ductus bursae short. Signum long.

Larva green yellow with faint whitish hue, occasionally tinged reddish or bluish. Head yellowish spotted with darker from back and freekled with brown black at the ocelli. Plates concolorous with the spots situated at the ocelli. Tubercles usually black. In the young larva the head is black and the thoracic plate brown. Larva feeds inside flowers and on the leaves of *Hieracium* L. and *Chrysanthemum* L., according to Réal also on *Teucrium* L. and *Compositae*.

#### Examined material:

Great Britain — 2 spec. "Anglia Dbld." (coll. Zool. Mus. Humb. Univ., Berlin) — Switzerland — 1 spec. from Lundwich, 1 spec. from Rhaetia (coll. Zool. Mus. Humb. Univ., Berlin) — Austria — 1 spec. from Alps (coll. I. Z. P. A. S., Warszawa) — Germany — 1 spec. "Alt Damm, 15 VIII" (coll. I. Z. P. A. S., Warszawa) — Yugoslavia — 3 spec. from Veldes Oberkrain (coll. S. Toll.) — Poland — several spec. from Pieniny Mts., Radziszów, Kraków, Zawiercie, Jamy distr. Grudziądz (coll. I. Z. P. A. S., Kraków, Warszawa, S. Toll.) — USSR — 1 spec. from Lwów (coll. I. Z. P. A. S., Warszawa).

### Cnephasia (Cnephasia) chrysantheana (Duponchel, 1843)

[Pl. XXI, fig, 34, pl. XL, fig. 187, 188, 189, pl. LVIII, fig. 269]

? Tortrix asinana HAWORTH, 1811, Lep. Brit.: 464; Cnephasia assinana (nom. emend.) Stephens, 1829, Syst. Cat. Brit. Ins. 2: 181; Cnephasia Eudemis sinuana Stephens (non Schiffermüller & Denis), 1834, Ill. Brit. Ins. 4: 128; Sciaphila wahlbomiana (part.) Duponchel, 1836, Hist. Nat. Lép. France 9: 391, pl. 256, fig. 4 a; Sciaphila chrysantheana DUPONCHEL, 1843, Hist. Nat. Lép. France Suppl. 4: 410, pl. 83, fig. 5: ? Sciaphila alternana Guenée, 1845, Ann. Soc. Ent. Fr. 2/3: 165: Cnephasia stephensiana Doubleday, 1850, Syn. List. Brit. Lep.: 24; Sciaphila chrysantheana (nom. emend.) HERRICH-SCHÄFFER, 1851, Syst. Bearb. Schm. Eur. 4: 200 (1847, Tortr. pl. 16, fig. 115-116, non. binom.); Cnephasia Syndemis alternella Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 65; ? Cnephasia Syndemis perplexana Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 65, 101; Sciaphila wahlbomiana (part.) Heinemann, 1863, Schm. Deutschl. & Schweiz 2/1/1: 58; Sciaphila alticolana (part.) Heinemann, 1863, Schm. Deutschl. & Schweiz 2/1/1: 60; Tortrix hyemana WERNEBURG, 1864 (non HÜBNER), Beitr. Sch. Kunde 1: 477, 574; Tortrix wahlbomiana Kennel, 1910, Pal. Tortr.: 204 (part.), fig. 16-17, pl. 10, fig. 44, 45; Tortrix chrysantheana Kennel, 1910, Pal. Tortr, pl. 10, fig. 43; Cnephasia chrysantheana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 11, pl. 4; ADAMCZEWSKI, 1936, Ann. Mus. Zool. Pol. 11: 265, 286, fig. 1 a, pl. 33, fig. 1, 2, pl. 35, fig. T. 137, Kn. 1, pl. 37, fig. T. 37; Cnephasia conspersana Lhomme (non Douglas), 1939, Cat. Lép. France & Belg. 2: 273; Cnephasia chrysantheana Benander, 1950, Svensk Insektf.: 45, fig. 6 p; Cnephasia wilkinsoni Cleu, 1951, Rev. Fr. Lép. 13: 159. nom. n.; Réal, 1952, Rev. Fr. Lép. 14: 221; Cnephasia chrysantheana Agenjo, 1952, Faun. lep. almer.: 94, pl. 4, fig. 37, pl. 13, fig. 2, 2 a; Obraztsov, 1956, Tijdschr. Ent. 99: 113; Cnephasia (C.) wilkinsoni Razowski, 1956, Acta Zool. Crac. 1: 128, pl. 3, fig. 3.

Ab. rectilinea Réal, 1953.

Cnephasia wilkinsoni f. ind. rectilinea Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 60.

Ab. directana Réal, 1953.

Cnephasia wilkinsoni f. ind. rectilinea RÉAL, 1953, Bull. Mens. Soc. Linn. Lyon  ${\bf 22}$ : 60.

Ab. vulgaris Réal, 1953.

Cnephasia wilkinsoni f. ind. vulgaris Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 60.

Ab. interjunctana Réal, 1953.

Cnephasia wilkinsoni f. ind. interjunctana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 60.

Ab. diffusana HAUDER, 1913.

Cnephasia chrysantheana ab. diffusana Hauder, 1923, Jahrb. Mus. Fr. Carol. 71: 97.

? Ab. parvana Réal, 1953.

Cnephasia wilkinsoni f. ind. parvana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 60.

Ab. peyerimhoffi Réal, 1953.

Cnephasia wilkinsoni f. ind. peyerimhoffi Réal., 1953, Bull. Mens. Soc. Linn. Lyon 22: 60.

Ab. pseudochrysantheana Réal, 1953.

Cnephasia wilkinsoni var. pseudochrysantheana Réal, 1953, Bull. Mens. Soc. Linn. Lyon  $\, {\bf 22} \colon \, 60. \,$ 

Ab. siennicolor Réal, 1953.

 $Cnephasia\ wilkinsoni\ var.\ siennicolor\ Réal, 1953,\ Bull.$  Mens. Soc. Linn. Lyon ${\bf 22}\colon 60.$ 

The shape and pattern of primaries very variable. There occur various transitory forms among the aberrations described by Réal. For this reason, these aberrations should be synonimized with the typical form.

Costal margin of the forewing more or less arcuate, alar apex rounded, termen oblique. Ground colour grey, grey brown, more or less darkened and transversally stripped with darker, or dusted with dark seales. Pattern dark brown usually well developed and sharply marked. Outer part of basal spot reduced, the inner one marked as a fascia isolated from the dorsum. Medial band uniform, occasionally once or twice interrupted. Terminal speck frequently connected with a dark cloud in the outer area of the wing. Secondaries grey brown, more or less darkened, fringes somewhat paler than the ground. Forewing 8—11 mm. long.

Ab. rectilinea RÉAL. Inner border of the medial band in the

primaries nearly straight.

Ab. directana Réal. Inner border of the medial band in the primaries concave.

Ab. interjunctana Réal. Transversal bands of primaries amalgamated.

Ab. diffusana Hauder. Specimens smaller than the typical ones (two-thirds of normal size).

Ab. peyerimhoffi RÉAL. Specimens strongly darkened; the central area is the darkest one in the forewing.

Ab. pseudochrysantheana RÉAL. Ground colour of the forewing light, strongly transversally stripped.

Ab. siennicolor Réal. Specimens resembling C. cinareana Chrét. by their brown, rather dark ground colour of the forewing.

Male genital armature: valva broad, rounded terminally; sacculus long, its length wariable, separate spoon-shaped tip lying on the valva; uncus massive; socii large, aedeagus bent and bluntly terminated, its width variable and may be deformed during preparing.

Female genitalia: lamella antevaginalis concave distally; introitus vaginae broader and considerably more sclerotized than the ductus bursae; the latter long; signum large.

The discussed species is distributed only in the Palaearctic region. It appears in July and August.

The specific distinctness of *C. alternella* WILK. is very doubtful. The separation of this species from *C. chrysantheana* (Dup.) is based only on the differences of the width of aedeagus, but the genitalia of the latter are rather variable. This problem may be solved only by means of the biological investigation of both species.

Besides the above mentioned species, several others are closely related to *C. chrysantheana* (Dup.), namely: *C. anatolica* Chrét. or *C. cinereipalpana* Raz. known from Eastern Asia. *C. atlantis* Fil. is very similar by its genitalia to *C. chrysantheana* (Dup.), however, rather distinct from it by its external appearance.

The young caterpillar is dark green, and, as it grows, it becomes black green coloured, paler on the segment-joints and below. Head, plates, as well as thoracic legs concolorous with those of *C. virgaureana* (Tr.). The caterpillar is mining, then living inside rolled leaves of various plants such as *Carlina L. Centaurea L., Cirsium Mill., Hieracium L., Tussilago L., Primula L., Artemisia L., Mentha L., Euophorbia L., Genista L. and others.* 

Examined material:

Spain — several spec. from San Ildefonso and Granada (coll. Zool. Mus. Humb. Univ., Berlin) — France — 2 spec. from Bourgundia (coll. I. Z. P. A. S., Warszawa) — Italy — several spec. from Sardinia and Trafoi (coll. Zool. Mus. Humb. Univ., Berlin) — Switzerland — several spec. from Engadin, Rhaetia, Tessin (coll. Zool. Mus. Humb. Univ., Berlin and Mus. Kiel) — Austria — 3 spec. from Biberg and Leibnitz (coll. I. Z. P. A. S., Warszawa and Mag. Nem. Muz., Budapest) — Yugoslavia — 1 spec. from Sarajevo (coll. Inst. Polj. Sarajewo); 8 spec. from Veldes Oberkrain (coll. S. Toll) — Germany — 19 spec. from Schlezwig-Holstein (coll. Mus. Kiel) — Poland — many spec. from Zakopane, Pieniny Mts., Zawiercie, Kraków, Równica ad Ustroń, Skotniki distr. Końskie, Bydgoszcz, Pomorze (coll. I. Z. P. A. S., Warszawa, Kraków; S. Toll, author) — Hungary — 1 spec. from Budakeszi, Hársbokorhegy, 1 spec. from Ocsa, Negverdö, 1 spec. from Budapest (coll. Mag. Nemz. Muz., Budapest) — USSR — several spec. from Western Podolia (coll. S. Toll, and coll. I. Z. P. A. S., Kraków).

### Cnephasia (Cnephasia) hispanica Obraztsov, 1950

[Pl. XL, fig. 190]

Cnephasia hispanica Obraztsov, 1950, Eos 26: 308, fig. 6.

I have had no opportunity to examine the types of this species, but the description and figure of male genitalia given by Obraztsov have made it possible to put *C. hispanica* Obr. in its proper systematic position.

Original description: "3. Vorderflügel breit; Costa gebogen; Apex breit, fast geradewinklig, abgerundet; Termen breit gerundet; Dorsum flach. Hinterflügel breit; Apex nicht hervortretend; Termen flach. Vordeflügellänge: 11 mm. Kopf, Thorax und Vorderflügel bräunlichaschgrau, Palpen dunkler, Fühler deutlich weiss und schwarzlich geringeld. Vorderflügel mit leichter schattenhafter Andeutung der Zeichnung, die fast nur nach den schwarzen Grenzepunkten und etwas lichterer Umsäumung einzelner Zeichnungselemente zu erkennen ist. Im äusseren Flügeldrittel schwarze breite Quadratflecke an der Costa mit weisslichen Zwischenräumen. Dorsum mit feinen kaum sichtbaren bräunlichen Strichelchen. Fransen bräunlichgrau mit breiterer dunklerer Basal und ganz feiner Teilungslinie.

Hinterflügel lichtbraun, am Saum dunkler, mit lichtbräunlichen Fransen mit schwacher bräunlicher Basal — und zwei granz feinen Teilungslinien.

9: Kopf gelblicher als der Thorax. Vorderflügel kürzer (9 mm) als beim 3. Tornus schräger abgerundet. Die Vorderflügelgrundfarbe lichter mit deutlicher, viel dunklerer Zeichnung, deren Zwischenräum fein braun dunkel Fleck; erste (praecostale) Binde reicht bis zur Falte und ist in der Flügelmitte deutlich nach aussen geknickt und fast vollständig in grosse schwarze Flecke eingeschlossen. Die mittlere Binde breit, vor dem Dorsum plötzlich verschmälert. Die praeapicale Zeichnung besteht aus einem breiten Kostalfleck und zwei zum oberen Tornuspunkt verlaufenden und unten zusammenfliessenden feinen Linien, die hauptsächlich durch die sie begleichenden schwarzen Flecke angedeutend sind. Costa mit schwarzen Kostalhäkchen. Dorsum mit schränkerer Andeutung der obenerwähnten Wellenrieselung in den Zwischenräumen der Binden. Im übrigen dem 3 gleich. Holotypus (3) und Allotypus (?) ungenauer Angabe "Hispania Stgr". (Zoologische Staatssammlung, München). Da es sich hier bestimmt um eine neue Art handelt, entschliesse ich mich, sie zu beschreiben.

Die männlichen Genitalien erinnern an die von *chrysantheana* (Dup.), aber die Valva ist gleichmässiger breit, ihre Spitze mehr abgerundet, der äussere Rand kurz. Die Verstärkungsleiste des Sacculus reicht kaum über die Mitte des unteren Valvarandes. Aedoeagus stärker zugespitz".

# Cnephasia (Cnephasia) octomaculana Stephens, 1834

[Pl. XXI, fig. 35, pl. XLI, fig. 191, pl. LVIII, fig. 270]

Cnephasia octomaculana Stephens, 1834 (1829, Syst. Cat. Brit. Ins. 2: 180, nom. n.), Ill. Brit. Ent. Haust. 4: 127; Sciaphila penziana (part.) Herrich-Schäffer, 1855, Syst. Bearb. Schm. Eur. 4, Index: 32; ? Sciaphila styriacana (part.) Herrich-Schäffer, 1863, Corr. Bl. zool.-min. Ver. Regensb. 17: 125; Tortrix octomaculana Kennel, 1910, Pal. Tortr.: 202, fig. 13, pl. 10, fig. 38; Cnephasia octomaculana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 11, pl. 4.

Costal margin of the forewing slightly arched, alar apex rounded, termen oblique. Ground colour light, white or white grey. Basal band isolated from the dorsal margin. Medial band broad, frequently twice interrupted. In the specimens with the interrupted medial band, the dorsal portion of the latter more or less reduced. Terminal speck well developed, occasionally connected with a terminal dark cloud. The latter sometimes forms a distinct spot, or is reduced into several small specks. Fringes somewhat darker than the ground of the wing. Secondaries broad, grey brown, darkened along the peripheries, fringes considerably lighter. Forewing 9—12 mm. long.

Male genital armature resembles that of *C. chrysantheana* (Dup.). The most similar component of the genitalia is sacculus, which is attached to the valva to about half of its length. The separate tip of sacculus curved, lying on the valva. Valva elongated, about equally wide on the whole of its length. Uncus long, socii broad, the arms of gnathos thick, terminal plate of gnathos broad. Aedeagus fairly broad, acuminate terminally.

Geographical distribution: Great Britain. According to KENNEL (1910) the species is common and appears in July and August.

Larva blackish grey; head brown, thoracic plate black; tubercles big, black. It feeds in June on Centaurea L., Plantago L., and other plants.

Examined material:

13 spec. labelled "Nordengland" and "Paisley" (coll. Nat. Hist. Mus., Vienna, coll. H. G. Amsel and author's coll.).

# Cnephasia (Cnephasia) conspersana Douglas, 1846

[Pl. XXI, fig. 36, pl. XLI, fig. 192, pl. LVIII, fig. 271]

Cnephasia conspersana Douglas, 1846, Zoologist 4: 1267; Cnephasia cretaceana Curtis, 1850, Ann. & Mag. N. H. ser. 2, 5: 112; Cnephasia perterana Doubleday, 1850, Syn. List. Brit. Lep.: 24; Cnephasia Syndemis decolorana Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 64; ♀ Sciaphila styriacana (part.) Herrich-Schäffer, 1863, Corr. Bl. zool. min. Ver. Regensb. 17: 125; Tortrix conspersana Kennel, 1910, Pal, Tortr.:

201, pl. 10, fig. 35—37; Cnephasia conspersana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 11, pl. 4; Cnephasia chrysantheana Réal, 1952, Rev. Fr. Lép. 13: 221.

Ab. alospersana Pierce & Metcalfe, 1915.

Cnephasia conspersana ab. alospersana Pierce & Metcalfe, 1915, Ent. Mo. Mag. 51: 9.

A species similar to the previous one distinct from it, however, be the colouring. Ground colour of the primaries grey yellowish or grey brown, conspicuously darker than in *C. octomaculana* Steph. and the pattern darker, more brown than in the latter. Fringes concolorous with the ground. Secondaries grey brown, fringes delicately paler. Forewing 8—10 mm. long.

The male, as well as the female genital armature of the species discussed differ from those of the former species, they possess, however, many common characters. It is no doubt that the species discussed is an extreme one among the species forming the group related to *C. chrysantheana* (Dup.).

Male genital armature: valva big, broad, strongly tapering towards its apex; sacculus attached to the valva on a short abscissa, curved towards the dorsal edge of valva; the separate tip of sacculus lying on the valva; uncus similar as in *C. chrysantheana* (Dup.); socii narrow; the arms of gnathos long, terminal plate narrow; aedeagus of a characteristic structure: it is long and bearing two terminal swellings covered with thorns.

Female genitalia: lamella antevaginalis very large, broad, its distal edge concave in the middle; introitus vaginae very broad and heavily sclerotized; ductus bursae very short; bursa copulatrix round; signum long, fairly narrow.

C. conspersana Doug. is recorded from Great Britain, Spain and North Africa. According to Obraztsov (1956) it occurs in Germany, Roumania and Transcaucasia the writer gives, however, these data as doubtful. The species appears in June and July.

The caterpillar grey green; tubercles minute, black; thoracic plate and head brown yellow. It feeds in May and June on *Chrysanthemum* L., *Taraxacum* ZINN., *Teucrium* L. and others.

Examined material:

Great Britain — 1 spec. "Swan, 1 IV 1892" (coll. H. G. AMSEL); 1 spec. "Barnsley, Yorks, 1903" (author's coll.) — Spain — 1 spec. "Sn. Ildefonso 29 VII" (author's coll.); 1 spec. "Sierra Nevada, Korb. 18 VII [18]80" (coll. Zool. Mus. Humb. Univ., Berlin).

### Cnephasia (Cnephasia) tolli Razowski, 1956

[Pl. XXI, fig. 37, pl. XLI, fig. 193, 194, pl. XLII, fig. 195]

Cnephasia tolli Razowski, 1956, Acta Zool. Crac. 1: 22, pl. 4, fig. 4 ( $\circlearrowleft$ genit.), pl. 5, fig. 9.

This species is hitherto not reported from Europe, it is known, however, from Cyprus.

Primaries: costal margin slightly arched, alar apex rounded, termen oblique; colouring somewhat similar as in *C. abrasana* (Dup.), unicolorous grey brown, faintly transversally stripped with darker; fringes concolorous with the ground. Secondaries broad, concolorous with the primaries, but a little lighter; alar apex acuminate. Forewing 9—10 mm. long.

The description of the species discussed has been made from one type specimen captured in Haifa. Besides this specimen, two other ones are hitherto known. The first of them was collected at Abu Gosch (Israel), and the second one in Cyprus. The specimens from Israel are rather similar to each other, the specimen from Cyprus differs, however, from the typical ones by its conspicuously narrower primaries and more distinct transversal stripping in them. The genitalia in the type specimen are much larger than those in the remaining specimens. Valva broad; sacculus long and thick with a short separate tip; uncus and socii long and thin; aedeagus narrow, strongly bent and bearing terminal dorsal swelling covered with minute thorns. The genitalia of the specimen from Abu Gosh differ from those of the type by their narrower valva and narrower, shorter aedeagus. The specimen from Cyprus characterize the smallest genitalia. Despite the lack of a more numerous material for comparison, the variability of the genitalia of the species in question seems to be continuous. For this reason I regard all three of the above mentioned specimens as belonging to the typical form of C. tolli RAZ.

The female of the species in question is unknown thus far. The males has been recorded in February and April.

Eearly stages and foodplant unknown.

Examined material:

l spec. from Haifa, IV 1900 (Holotype), l spec. from Abu Gosh, l spec. from Cyprus.

### Cnephasia (Cnephasia) heringi RAZOWSKI, 1958

[Pl. XXI, fig. 38, pl. XLII, fig. 196, pl. LVIII, fig. 272)

Cnephasia heringi Razowski, 1958, Acta Zool. Crac. 2: 575, pl. 55, fig. 19, 20, pl. 58, fig. 38, pl. 62, fig. 58.

Primaries narrow, slightly expanding outwardly, costal margin delicately arched, termen oblique. Ground colour grey, more or less darkened, pattern darker and more brownish or blackish. Fringes concolorous with the ground. Secondaries grey brownish, darkened along the peripheries, fringes whitish. Forewing 6—8 mm. long.

This species comes near *Cnephasia incertana* (Treit.) or *C. hellenica* Obr. by its external character.

Male genital armature very characteristic by very short sacculus, reaching only half the length of valva, tipped with a big swelling. The latter corresponds to the separate tip in the other species. The swelling clothed with minute hair. Aedeagus thin, curved. Socii small. Uncus long.

Female genitalia: lamella antevaginalis rather narrow, its proximal edge rounded. Ductus bursae short, introitus vaginae rather heavily sclerotized. Gonapophyses anteriores long, as long as the posteriores ones. Signum big.

The imagines appear in May. The species was hitherto known only from Asia Minor. Now I have examined one specimen from Europe labelled "St. Nicolo Ende Mai, Kreta, RBL. [19]04" (coll. Nat.-hist. Mus., Vienna).

### Cnephasia (Cnephasia) pumicana (Zeller, 1847)

[Pl. XXI, fig. 39, 40, pl. XLII, fig. 197, 198, pl. LIX, fig. 273]

Sciaphila pumicana Zeller, 1847, Isis 1847: 669; Tortrix pumicana Kennel, 1910, Pal. Tortr.: 212, pl. 11, fig. 2 (non fig. 21 on p. 212); Cnephasia pumicana Razowski, 1958, Pol. Pis. Ent. 27: 76, pl. 1, fig. 1, 2, pl. 2, fig. 9, pl. 4, yg. 17, 18.

Costal margin of the forewing gradually arched, termen oblique. Ground colour grey, grey yellowish to brown yellow. Pattern sometimes indistinct, frequently somewhat darker than the ground. A transversal stripping marked. Basal area of the wing tinged with darker. Medial band is the most distinct component of the pattern. Outer portion of the wing darkened or transversally dark stripped. Sometimes the borders of the pattern marked with rows of dark dots. Fringes somewhat paler than the ground. Secondaries grey brown or grey yellowish, more or less darkened, the fringes paler. Forewing about 9 mm. long.

Male genital armature: aedeagus of characteristic structure strongly tapering and bearing several minute thorns terminally. The shape of valva variable. The length of sacculus also very variable, similarly as in *C. virgaureana* (Tr.). Sacculus may be attached to the valva on one-third to two-thirds of its length. In the latter case, the separate tip of sacculus reaching almost to the end of the ventral edge of valva. Uncus broad and rather short in relation to that of several previous species. Socii large.

Female genital armature conspicuously less variable than that of male. Lamella antevaginalis broad, concave in the middle of its distal edge, its ends pointed. Introitus vaginae more sclerotized and a little shorter than ductus bursae. Signum longer than half the length of bursa copulatrix.

Obraztsov (1956) was wrong considering C. graecana  $R_{\rm BL}$ . as a subspecies of the species discussed. C. graecana  $R_{\rm BL}$  is a species closely related to C. fragosana (Zell.).

The data in the literature concerning the geographical distribution of *C. pumicana* (Zell.) may be erroneous since it is frequently confused with the forms of *C. longana* (Haw.). I have examined several specimens of the species in question collected in Italy (Bologna), Greece (Rhodos) and Tripolitania.

# Cnephasia (Cnephasia) hellenica Obraztsov, 1956

[Pl. XXII, fig. 41, 42, pl. XLII, fig. 199]

Cnephasia helenica Obraztsov, 1950; Eos 26: 311, fig. (5 genit.); Cnephasia hellenica Obraztsov, 1956 (nom. emend.) Tijdschr. Ent. 99: 116; Razowski, 1958, Acta Zool. Crac. 2: 572, pl. 54, fig. 13, 14, pl. 35, fig. 35.

Primaries fairly narrow, costal margin slightly arched, termen oblique. The colouring variable. Ground colour pale grey, pattern almost invisible, occasionally completely reduced. The ground frequently dusked with darker, medial and basal band brown yellow, sometimes markedly pronounced. Outer area of the wing conspicuously transversally stripped. Secondaries grey brown, fairly light; the intensivity of the colouring of secondaries depends on that of primaries. Fringes somewhat lighter than the ground. Forewing about 8 mm. long.

Male genital armature: valva tapering towards the apex; sacculus reaching beyond three-quarters of the length of valva, bearing a minute process just a little before the half the length of valva; uncus long; socii big; the arms of gnathos thin, terminal plate fairly large; aedeagus bent, bearing a small plate on its ventral side; anellus-plate large.

Hitherto only the male of the species discussed is known. C. hellenica OBR. belongs to a group of species closely related to each other. They come near C. longana (HAW.) and, sometimes are considered as a distinct subgenus.

Geographical distribution: Greece, Spain and Asia Minor. Early stages and food plant unknown.

Examined material:

1 spec. "San Ildefonso, 18 VI" (author's coll.).

# Cnephasia (Cnephasia) longana (HAWORTH, 1811)

[Pl. XXII, fig. 43 - 48, pl. XLIII, fig. 200 - 202, pl. LIX, fig. 274]

Tortrix longana Haworth, 1811, Lep. Brit.: 463; Sphaleroptera capillana Guenée, 1845, Ann. Soc. Ent. Fr. ser. 2, 3: 167; Sciaphila loewiana Zeller, 1847, Isis 1847: 25; Sciaphila stratana Zeller, 1847, Isis 1847: 671; Sphaleroptera ictericana (part.) Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 64; ? Grapholita citrana (part.) Lederer, 1859, Wien. Ent. Mnschr. 3: 337; Sciaphila gratana Laharpe, 1860, Contr. Faun.

Sic.: 393; Cnephasia pumicana (part.) Rebel, 1901, Strg.-Reb. Cat. 2: 92; Cnephasia ongana (err. typ.) Meyrick, 1912, Wagner's Lep. Cat. 10: 44; Tortrix longana Kennel, 1910, Pal. Tortr.: 197, fig. 11, pl. 10, fig. 19—21; Tortrix gratana Kennel, 1910, Pal. Tortr.: 217; Cnephasia longana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 11, pl. 4; Benander, 1950, Svensk Insektf.: 197, fig. 6 u; Bradley & Martin, 1951, Ent. Gaz. 7: 154, pl. 5; Cnephasia (Brachyenephasia) longana f. ind. minor Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 58; Cnephasia (B.) longana Razowski, 1957, Acta Zool. Crac. 1: 127, pl. 17, fig. 2, pl. 21, fig. 6, pl. 25, fig. 4, 5.

### Ab. ictericana (HAWORTH, 1811).

Tortrix ictericana Haworth, 1811, Lep. Brit.: 469; Eutrachia lutosana Hübner (1811—13, Samml. Eur. Schm. Tortr. pl. 31, fig. 200 non binom.), 1822, Syst.-alph. Verz.: 62; Ablabia insolatana Herrich-Schäffer (1848, Tortr. pl. 21, fig. 152, non binom.), 1851, Syst. Bearb. Schm. Eur. 4: 178; Ablabia luridalbana Herrich-Schäffer, 1851, Syst. Bearb. Schm. Eur. 4: 178 (fig. 153, non binom.); Sciaphila stratana (part.) Walker, 1863, List. Spec. Lep. Het. B. M. 27: 225; Sciaphila longana (part.) Wocke, 1871, Stgr.-Wck. Cat.: 240; Cnephasia icterana Hodgkinson, 1874, Ent. Mo. Mag. 11: 85; Tortrix longana Kennel, 1910, Pal. Tortr.: 197, pl. 10, fig. 22, 24; Tortrix longana v. luridalbana Kennel, 1910, Pal. Tortr. pl. 10, fig. 23.

Colouring variable. The males differ from the females by their colour. The typical form occurs in Great Britain, as well as in Central Europe. In Southern Europe there occur light coloured forms, the genitalia of which differ somewhat from those of typical *C. longana* (HAW.).

Typical form: male — costal margin of the forewing slightly arched, alar apex rounded, termen oblique. The colouring uniform brown yellow, more or less darkened; fringes concolorous. Secondaries light grey brown, fringes yellowish. Female — primaries much narrower than in the males; the pattern most frequently occurs; ground colour brown yellow, yellow grey, grey brown, or, sometimes very light, the pattern more brown. Basal band comprises a basal darkening: medial band twice narrowed. The pattern in the outer area of the wing consisting of a terminal speck and a second one or small dark cloud situated at the termen. Sometimes both components connected. Fringes lighter than the ground of the wing. Secondaries grey brown, fringes whitish.

The light coloured South European form ab. ictericana (HAW.): primaries in the male unicolorous whitish, yellowish

and occasionally grey, rarely transversally stripped with yellowish brown; fringes concolorous with the ground; secondaries light, somewhat dusked with darker along the peripheries. Females bigger than the males; the pattern in the primaries more distinct, consisting of a transversal stripping or bands, frequently the both components occur together. Forewing 8—10 mm. long.

Three specimens collected in Sardinia differ from the above mentioned forms. Size very large; colouring conspicuously differing from that of typical specimens, ground colour of the primaries white yellowish with a faint violet hue, tinged with brown yellow along the peripheries; the pattern consisting of a transversal stripping and amalgamated spots situated at the termen. In one of the above mentioned specimens the medial bands in the forewing fairly distinct. Forewing 11 mm. long.

Several specimens from Rhodos characterize as follows: primaries somewhat narrower than in the typical form; the pattern yellow brown, terminal speck more distinct; size a little smaller than in the specimens of previous form. A form resembling somewhat *C. gueneana* (Dup.).

F. cadizensis f. n. A form resembling very light specimens of ab. ictericana (HAW.) by its uniform, but more citric yellow colouring. In the male genital armature valva broader basally and more tapering outwardly than in the typical form; socii thin, aedeagus faintly bent, strongly pointed, differing from that of the typical form. One male from Spain (Cadiz).

Male genital armature of the typical form: valva tapering outwardly; sacculus reaching just a little beyond one third of the length of valva; uncus long; socii narrow, fairly long; gnathos terminated with a broad plate, aedeagus bent, bearing several processes terminally. Female: lamella antevaginalis broad, concave in the middle of its distal edge, rounded proximally; introitus vaginae very short.

Geographical distribution: Spain, Great Britain, Sweden, Central and Southern Europe, North-Western Africa, Asia Minor. Imagines appear from April till August.

Caterpillar light grey or green grey; two light occasionally yellowish tinged dorsal lines; tubercles small, black, bordered

with white; head lustrous light brown; thoracic plate concolorous with body; feeding from May to June on Ranunculus bulbosus L., Convolvulus arvensis L., Sinapis L., Lychnis L., Chrysanthemum L., Centaurea L., Aster L. and other plants.

Examined material:

Spain — 3 spec. from Cadiz, 1887—1888, leg. Seebold; I spec. from Cuenca, 1894, Korb; I spec. from Albarracin, 1894; I spec. from Mauretania, Guelma, 1884 (coll. I. Z. P. A. S., Warszawa) — Italy — 3 spec. from Sardinia (coll. Zool. Mus. Humb. Univ., Berlin and author's coll.); 3 spec. from Sicilia: Palermo, Mistretta, M. Pellegrino, May, leg. Klimesch and Fiori (coll. author); 2 spec. from Sardinia (coll. I. Z. P. A. S., Warszawa and coll. H. G. Amsel) — Yugoslavia — 2 spec. from Dalmatia (coll. I. Z. P. A. S., Warszawa) — Greece — several spec. from Rodi, April (coll. Fiori and author's coll.) — Germany — 1 spec. from Berlin, July (coll. H. G. Amsel); several spec. from Hamburg and Spandu (coll. I. Z. P. A. S., Warszawa) — Poland — 1 spec. from Bielinek n/Odrą (author's coll.).

### Cnephasia (Cnephasia) bizensis Réal, 1953

[Pl. XXIII, fig. 50, pl. XLIII, fig. 203, pl. LIX, fig. 275]

Tortrix pumicana Kennel, 1910, Pal. Tortr. fig. 21; Cnephasia pumicana Lhomme, 1939, Cat. Lép. France & Belg. 2: 278; Cnephasia bizensis Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 58; Cnephasia (Brachycnephasia) bizensis Razowski, 1958, Pol. Pis. Ent. 27: 77, pl. 1, fig. 3, pl. 2, fig. 11, pl. 5, fig. 20; Cnephasia pumicana Razowski, 1956, Acta Zool. Crac. 1: pl. 4, fig. 5, pl. 5, fig. 10.

A species hitherto confused with the dark coloured specimens of C. longana ictericana (HAW.) or considered as C. pumicana (Zell.). It was described by Réal as a subspecies of C. pumicana (Zell.). I have separated C. bizensis Réal as a distinct species only after the accurate examining of both species. C. bizensis Réal differs from C. pumicana (Zell.) and C. longana (HAW.) by a smaller size, more rounded alar apex of the forewing and grey colouring. In the specimens examined by me the pattern in the forewing is strongly reduced, but the traces of the medial band are faintly marked. Secondaries fairly broad, a little lighter than the primaries. Wing expanse about 17 mm. Male, as well as female genitalia of this species very similar to those of C. longana (HAW.). In the male genital armature valva strongly tapered towards

the apex; sacculus thin, fairly long; uncus thin, acuminate; socii narrow; aedeagus narrower and its processess shorter than in  $C.\ longana\ (Haw.)$ .

Geographical distribution: France (Réal, 1953), Spain, Asia Minor. I have examined one male specimen labelled "Hispan. 290" (coll. I. Z. P. A. S., Warszawa).

# Cnephasia (Cnephasia) klimeschi Razowski, 1956

[Pl. XXIII, fig. 49, pl. LIX, fig. 276]

Cnephasia (Brachycnephasia) klimeschi Razowski, 1958, Pol. Pis. Ent. 27: 79, pl. 2, fig. 13, pl. 6, fig. 24.

A very small-sized species. Forewing about 6 mm. long. Forewing very narrow, costal marin almost straight, alar apex delicately rounded, termen oblique. Ground colour grey ashy. Pattern grey black, basal band with a projection on its outer side, the inner border of the medial band concave, apical area dusked with darker, fringes paler than the ground. Secondaries light grey, fringes concolorous.

Female genitalia differing from those of the previous species. Lamella antevaginalis elongated, its distal edge fairly straight, the proximal one rounded at the introitus vaginae. The latter short, rounded, heavily sclerotized; ductus bursae short; signum fairly short; gonapophyses long.

Only one female (holotype) of the species is hitherto known. It is labelled "Macedonia, Stari Dojran 10—19 VI 1955, leg. J. Klimesch", Praep. T. 6902 (coll. J. Klimesch).

# Cnephasia (Cnephasia) taurominana RAZOWSKI, 1955

[Pl. XXIII, fig. 51, pl. LIX, fig. 277]

Cnephasia (Brachycnephasia) taurominana RAZOWSKI, 1955, Zeit. Wien. Ent. Ges. 40: 265, fig. 1 (♀ genit.); Cnephasia gueneana Obraztsov, 1956, Tijdschr. Ent. 99: 111; Cnephasia (Brachycnephasia) taurominana RAZOWSKI, 1958, Pol. Pis. Ent. 27: 80, pl. 3, fig. 15, pl. 8, fig. 28.

Externally this species comes very near *C. gueneana* (Dup.), but differs from it by the structure of genitalia. Primaries fairly narrow; costal margin slightly arched at the alar base,

further on nearly straight, alar apex delicately rounded, termen oblique. Colouring as in *C. gueneana* (Dup.). Forewing about 8 mm. long.

Female genitalia: gonapophyses posteriores considerably longer than the anteriores ones whilst in *C. gueneana* (Dup.) this difference is less conspicuous. Lamella antevaginalis more weakly built and introitus vaginae considerably narrower than in *C. gueneana* (Dup.). Introitus vaginae in major part heavily sclerotized. Signum narrow.

The only female specimen (holotype) was taken in Sicily. It is labelled "Tauromina, Sicil. 22—30 IV 1921, Weber leg." (coll. Naturhist. Mus., Wien).

#### Cnephasia (Cnephasia) gueneana (Duponchel, 1836)

[Pl. XXIII, fig. 52, 53, 54, pl. XLIV, fig. 204, pl. LIX, fig. 278]

Argyrolepia gueneana Duponchel, 1836, Hist. Nat. Lép. Fr. 9: 439, pl. 259, fig. 3; Tortrix gueneana Kennel, 1910, Pal. Tortr.: 198, pl. 10, fig. 25; Cnephausa (Brachycnephasia) gueneana Razowski, 1944, Zeit. Wien. Ent. Ges. 40: 265, fig. 2, 4; Cnephasia (B.) taurominana Obraztsov, 1956, Tijdschr. Ent. 99: 111; Razowski, 1958, Pol. Pis. Ent. 27: 79, pl. 1, fig. 6, pl. 2, fig. 14, pl. 6, fig. 25, pl. 7, fig. 26.

Ab. segetana (Zeller, 1847).

Sciaphila segetana Zeller, 1847, Isis 1847: 670; Cnephasia gueneana (partim) Rebel, 1901, Stgr.-Reb. Cat. 2: 91; Tortrix segetana Kennel, 1910, Pal. Tortr.: 198, pl. 10, fig. 26.

The species comes near *C. longana* (HAW.) (particularly males). Variability fairly pronounced. Costal margin of the forewing slightly arched, alar apex acuminate or slightly rounded. Ground colour yellowish grey, yellow, or yellow brown. Pattern more brown consisting of a basal band, medial band and terminal speck. Basal band strongly bent outwardly and usually touching dorsal margin. Medial band broadened in the middle of the wing's width, occasionally interrupted, it is a most pronounced component of the pattern. Terminal speck isolated or connected with an elongated dark cloud at the termen. Fringes rather concolorous with the ground. Secondaries brown grey, fringes light, alar apex acuminate. Forewing about 8 mm. long.

Ab. segetana (Zell.). Light yellowish coloured specimens; pattern somewhat darker, but not brown or brown yellow.

I have examined several specimens with unicolorous grey yellowish primaries. The genitalia of this form similar as in the typical form. The colouring of the primaries of an another form grey or even white grey. Pattern brown, most distinct in the outer area. This form is probably a distinct subspecies from Malta, I can not, however, solve this problem because of too scant material.

Male genital armature: valva considerably narrower than in C. longana (HAW.), strongly tapered outwardly and acuminate terminally; sacculus very short, reaching to about one-third of the length of valva; uncus conspicuously shorter than in C. longana (HAW.); flat terminally; socii long; aedeagus slightly bent, tapered towards the apex, bearing only several minute teeth; gnathos long.

Female genitalia: lamella antevaginalis narrower than in  $C.\ longana$  (HAW.) proximal edge strongly produced, introitus vaginae and ductus bursae short.

Geographical distribution: North-Western Africa, Canary Island, Sicily, Korfu, Crete. Imagines ap pear from March till June.

Examined material:

4 spec. form Sicily taken in April and May (coll. Mus. Hist. Nat., Paris, Nat.-hist. Mus., Vienna); 2 spec. form Gharghur Malta (author's coll.); 3 spec. from Crete taken in April and May (coll. Nat.-hist. Mus., Vienna); 1 spec. from Eimassol Cyprus (coll. Nat.-hist. Mus., Vienna).

# . Caephasia (Cnephasia) nuraghana Amsel, 1951

[Pl. XXIII, fig. 55, pl. XLIV, fig. 205]

Cnephasia nuraghana Amsel, 1951, Fragm. Ent. 1/1: 106, fig. 7 (male genit.); Obraztsov, 1956, Tijdschr. Ent. 99: 11; Razowski, 1958, Pol. Pis. Ent. 27: 80, pl. 1, fig. 7, pl. 7, fig. 27.

A species very similar externally to the previous one. Costal margin of the forewing nearly straight, alar apex delicately rounded, termen oblique. Ground colour yellowish, somewhat tinged with darker in the basal area. Pattern yello-

wish brown, basal band narrow, reaching only up to the wing's middle; medial band considerably narrower in its costal part than in the dorsal one; terminal speck elongated, sometimes more or less connected with the medial band so as in *C. gueneana* (Dup.). A narrow, darker spot at the termen. Fringes rather concolorous with the ground. Secondaries yellowish in the basal area, brownish in the apical portion and along the peripheries; fringes concolorous with the apical portion. Forewing 7 mm. long.

Male genital armature: valva broad, tapered gradually outwardly; sacculus somewhat longer than in *C. gueneana* (Dup.); uncus and socii fairly short; gnathos broad; aedeagus slightly bent, acuminate.

Only the male of this species is hitherto known. I have examined one male labelled "S. Catherina, Sardegna occ. 3 VI 1936, H. G. AMSEL" (coll. H. G. AMSEL).

### Cnephasia (Cnephasia) fragosana (Zeller, 1847)

[Pl. XXIII, fig. 56, pl. XLIV, fig. 206, pl. LX, fig. 279]

Sciaphila fragosana Zeller, 1847, Isis 1847: 673; Sciaphila fragosana Herrich-Schäffer, 1851, Syst. Bearb. Schmett. Eur. 4: 199 (1850, Tortr. pl. 54, fig. 379 binom.); Tortrix orientana Kennel, 1910, Pal. Tortr.: 203, pl. 10, fig. 28; Cnephasia gueneana (part.) Meyrick, 1912, Wagner's Lep. Cat. 10: 44; Cnephasia reisseri Filipjev, 1934, Bull. Acad. Sci. URSS, 1934: 1405.

This species, as well as the several next ones belong to group of a doubtful systematical position within the *Cnephasia* Curt. It seems that some of its members present the intermediate joints to the former species. The males are very similar to each other, the females present, however, considerably differences between individual species.

Primaries fairly narrow, costal margin slightly arched, termen oblique. Ground colour whitish or yellowish, occasionally tinged with brown. Pattern brown yellow; a darkening or a band in the basal area; medial band oblique; the terminal darkening sometimes distinctly bordered, its border is nearly parallel to the medial band. Sometimes the pattern indistinct

or completely reduced. Specimens uniformaly coloured have a yellowish hue. Primaries frequently suffused with dark scales or transversally stripped. Fringes concolorous with the ground. Forewing 8—9 mm. long.

Male genital armature: valva elongated, tapered outwardly; sacculus fairly long, reaching to about half the length of valva. Uncus short, frequently deformated by the cover-glass in the preparation. Socii short, broad; gnathos narrow, terminal plate lacking. Aedeagus bent, pointed terminally.

Female genitalia: lamella antevaginalis rather triangular, its proximal edge rounded; introitus vaginae weakly sclerotized; ductus bursae long; signum consisting of many rows of spikes.

Geographical distribution: Southern France, Asia Minor, North-Western Africa.

Early stages and food-plant unknown.

Examined material:

3 spec. form Sicily (coll. Nat.-hist. Mus. Vienna), 3 spec. form Greece (Parnas) (coll. Zool. Mus. Humb. Univ., Berlin and author's coll.).

#### Cnephasia (Cnephasia) semibrunneata (JOANNIS, 1891)

[Pl. XXIV, fig. 57, pl. XLIV, fig. 207, pl. XLV, fig. 208, pl. LX, fig. 280]

Sciaphila semibrunneata Joannis, 1891, Bull. Soc. Ent. Fr. 1891: 81; Cnephasia semibrunneata Rebel, 1901, Stgr.-Reb. Cat. 2: 91; Tortrix semibrunneata Kennel, 1910, Pal, Tortr.: 199, pl. 10, fig. 29; Cnephasia fragosana (part.) Obraztsov, 1956 (non Zeller), Tijdschr. Ent. 99: 110.

? Ab. graecana Rebel, 1902.

Cnephasia graecana Rebel, 1902, Berl. Ent. Zeit. 47: 105; Cnephasia pumicana Graves (non Zeller), 1925, Entomol. 58: 293.

Costal margin of the forewing gradually arcuate, alar apex rounded, termen oblique. Ground colour grey, grey white or grey yellowish, unicolorous or tinged lighter along the borders of the pattern. The latter brown to brown black, lightened at places. Basal band broad, curved outwardly. The inner border of the medial band arched, usually without any projection, distinctly marked. A dark cloud in the outer area. Fringes concolorous with the ground, with a dark striolation.

Secondaries brown grey, more or less darkened, fringes somewhat paler. Forewing 7—8 mm. long.

Ab. graecana REBEL. Ground colour unicolorous grey white with a slight yellowish hue. Pattern brown yellowish, darkened at its borders. Both transversal bands narrower than in the typical form. A dark stripe beyond the centre of the medial hand. No differences in the male genital armature as compared to the typical form.

Male genital armature: valva elongated, fairly narrow, broadened at the end of sacculus; the latter reaching half the length of valva, the length of the separate tip variable; uncus short, socii fairly big, gnathos small and without a terminal plate. The width of uncus may be deformed by the cover-glass in the preparation.

Female genitalia differ from those of the previous species. Labia big and broad; lamella subgenitalis narrow; lamella antevaginalis semicircular; introitus vaginae weakly sclerotized, having, however, heavily sclerotized ring; ostium bursae round; ductus bursae as long as bursa copulatrix; signum long.

Geographical distribution: Yugoslavia, Greece, Roumania, Asia Minor. Imagines appear in June.

Examined material: several spec. from Yugoslavia — Macedonia: Ochrida, Stari Dojran, June (coll. J. Klimesch, S. Toll and author's coll.). Type of ab. graecana Rebel. "Morea merid. Kambos Taygetos, VI 1901 i F. 901, Holtz", "Pumicana v. graecana Rebel, Type" (coll. Nat.-hist. Mus., Vienna).

### Cnephasia (Cnephasia) tyrrhaenica Amsel, 1951

[Pl. XXIV, fig. 58, pl. XLV, fig. 209, pl. LX, fig. 281]

Cnephasia tyrrhaenica Amsel, 1951, Fragm. Ent. 1: 108, fig. 8 (3 genit.); Cnephasia (Hypostephanuntia) ecullyana Réal, 1951, Bull. Mens. Soc. Linn. Lyon 20: 228, fig. 3—4; Cnephasia tyrrhaenica Razowski, 1958, Acta Zool. Crac. 2: 570.

Externally this species comes very near Neosphaleroptera nubilana (HAW.) having, however, somewhat narrower primaries, gradually arched costal margin and oblique termen. Ground colour brown grey more or less darkened, frequently stripped with darker. Pattern brown, darker than the ground.

Basal spot and terminal speck with smeared margins. Basal band frequently occurs. Medial band is the most distinct component of the pattern. Secondaries brown, fringes the concolorous. Forewing 6 mm. long.

Male genital armature: valva differing somewhat from that of the two previous species, being considerably narrower (particularly beyond the place of attaching of sacculus) in C. tyrrhaenica AMSEL. Sacculus thin, upturned. Uncus thin, socii fairly big. Aedeagus very similar to that of C. semibrunneata (JOAN.), thin, long, narrowed terminally.

Female genitalia very characteristic by their unusually long ductus bursae. Lamella antevaginalis somewhat concave distally, semicircular proximally. Ostium bursae round, introitus vaginae weakly sclerotized. Signum short.

This species is distributed probably in all Southern Europe hitherto known, however, only from Southern France, Sicily, Sardinia and Yugoslavia. It appears in June. Eearly stages and foodplant unknown.

Examined material:

France — 1 spec. from Ecully, June 1922 (type of Cnephasia ecullyana Réal) (coll. Soc. Linn., Lyon) — Sardinia — holotype and allotype "Porto Santoru, Sardegna or., 8 VI 1936, leg. H. G. Amsel" (coll. H. G. Amsel) — Yugoslavia — 1 spec. "Istria, 1868, Mn." (coll. I. Z. P. A. S., Warszawa); 1 spec. "Lissa 9 Gr." (coll. Zool. Mus. Humb. Univ., Berlin); 1 spec. without a locality, labelled only "H.-Sch." (coll. Zoll. Mus. Humb. Univ., Berlin).

#### Subgenus: Anoplocnephasia Réal, 1953

Typus subgeneris: Sciaphila sedana Constant, 1884

Anoplocnephasia Réal, 1953, Bull. Mens. Soc. Linn. Lyon. 22: 51.

Anoplocnephasia Réal. has been separated by Réal on ground of the lack of sacculus in the male genitalia of the representatives of this subgenus. Obraztsov (1955) was right supposing the possibility of existence of transitory stages between both kinds of male genital armatures (in the *Cnephasia Curt.* s. str. and *Anoplocnephasia Réal.*). As the example the writer pointed out to such species as *Cnephasia grandis* (OSTH.) and *C. facetana* Kenn. In *C. facetana* Kenn. there

occurs a small list with separate tip, similarly as in the other species of *Cnephasia* Curt. s. str. Besides the above mentioned difference, there exist other ones, not described, however, by Réal. The most prominent of them are the structure of aedeagus and anellus, as well as the shape of connecting-piece between them. In the members of *Anoplocnephasia* Réal. the aedeagus and anellus are connected with a broad scale-like piece whilst in the representatives of *Cnephasia* Curt. s. str. the connecting piece is list-shaped. The structure of transtilla in *Anoplocnephasia* Réal. differs somewhat from that of *Cnephasia* Curt. s. str. *Anoplocnephasia* Réal. comes somewhat near to the group of *C. semibrunneata* (Joan.) by the structure of gnathos and uncus. Ghathos thin and lacking the terminal plate, rarely with a small such plate.

# Cnephasia (Anoplocnephasia) heinemanni Obraztsov, 1956

[Pl. XXIV, fig. 59, pl. XLV, fig. 212, pl. LX, fig. 283]

Sciaphila monochromana Heinemann, 1863, Schm. Deutschl. & Schweiz 2/1: 56 (nom. praeoc.); Cnephasia wahlbomiana var. Rebel, 1916, Ann. Naturhist. Hofmus. Wien 30, nr. 235 bis; Tortrix monochromana Kennel, 1910, Pal. Tortr.: 200, pl. 10, fig. 31; Filipjev, 1934, Bull. Soc. Sci. USSR. 1934: 1408; Filipjev, 1935, Zschr. Oesterr. Ent. Ver. 20: 56; Cnephasia heinemanni Obraztsov, 1956, Tijdschr. Ent. 99: 110.

A small-sized species. Primaries in the males expanding outwardly, in the females more equally broad; costal margin in the males more straight than in the females; alar apex rounded, termen oblique. Ground colour pure white. Pattern yellow bordered with the rows of dark dots, in the males conspicuously less pronounced than in the females; it consists of an indistinct basal band, a medial one and a cloud at the termen. Pattern in the females yellow ochreous bordered with dark stripping and dots; medial band broad, basal one touching the dorsum, the spots in the apical area and at the termen indistinct. Secondaries light grey brown, fringes somewhat paler. Forewing in the males 8 mm. and in the females 7 mm. long.

Male genital armature: valva narrow acuminate apically; sacculus closely attached to the valva, broad, provided with

a fairly small swelling in half of its length; uncus short, thin; socii fairly big; gnathos broad; aedeagus slender, somewhat narrower than in the previous species, provided with two minute terminal thorns.

Female genitalia very similar to those of *C. sedana* (Const.), gonapophyses in the species discussed are, however, shorter and wide; lamella subgenitalis narrow, lamella antevaginalis consisting of two elongated lateral parts. Introitus vaginae weakly sclerotized, broad; ductus bursae very short, bursa copulatrix large, signum small.

Examined material:

3 spec. from Italy labelled "Parco N. Abruzzo, Pascasseroli, 24 VI [1]949, A. Fiori" (coll. J. Klimesch, S. Toll and author's coll.).

### Cnephasia (Anoplocnephasia) minima sp. nov.

[Pl. XXIV, fig. 60, pl. XLV, fig. 210]

Primaries narrow, costal margin slightly arched, alar apex rounded, termen oblique. Ground colour whitish, pattern faintly marked, grey, tinged yellow. Basal band narrow very light, very remote from the base of the wing; medial band interrupted in its half; terminal speck divided into several smaller ones. Several minute dark dots at the borders of the pattern and at the termen. Fringes concolorous with the ground. Secondaries whitish, fringes concolorous. Forewing 7 mm. long.

Male genital armature: valva narrow, long, tapering towards its apex, uncus narrow fairly long; gnathos thin; socii small; aedeagus fairly long, broader basally than apically.

Hitherto only one male specimen (holotype) of this species is known. It is labellad "Herzegovina, Mostar, 8 VI 1912, ex coll. Schwerda, G. U. 3053" (coll. H. G. Amsel).

### Cnephasia (Anoplocnephasia) sedana (Constant 1884)

[Pl. XXIV, fig. 61, 62, pl. XLV, fig. 211, pl. LX, fig. 282]

Sciaphila sedana Constant, 1884 a, Ann. Soc. Ent. Fr. ser. 6, 4: 221, pl. 9, fig. 8; Tortrix cupressivorana Kennel (non Staudinger) Kennel, 1910, Pal. Tortr.: 201, 208, fig. 18, pl. 10, fig. 32, 33; Filipjev, 1935,

Zschr. Oesterr. Ent. Ver. 20: 56; Obraztsov, 1955, Tijdschr. Ent. 98, fig. 267; Obraztsov, 1956, Tijdschr. Ent. 99: 109.

F. valderiana Turati & Verity, 1911.

Cnephasia sedana f. valderiana Turati & Verity, 1911, Boll. Soc. Ent. Ital. 43: 228; Cnephasia sedana ssp. meridionalis Cleu, 1951, Rev. Franç. Lép. 13: 159, nom. nud.; Cnephasia sedana ssp. meridionalis Réal, 1952, Rev. Franç, Lép. 14: 221.

F. mediterranea Réal, 1952.

Cnephasia Anoplocnephasia sedana race mediterranea Réal, 1952, Rev. Franc. Lép. 14; nr. 13—14.

Primaries long and narrow, expanding outwardly; alar apex acuminate, termen strongly oblique, costal margin faintly arched or nearly straight. Ground colour white grey, grey, sometimes with a slight violet hue. Pattern darker grey, rarely grey brown. The ground somewhat darkened in the basal area and, sometimes at the costa. Basal band usually isolated from the dorsal margin. Medial band frequently interrupted, or once or twice narrowed. Outer spot uniformly coloured or lightened at places. Several small specks at the termen, they are sometimes amalgamated with each other into a long stripe. Fringes concolorous with the ground. Secondaries light grey brown, fringes whitish. Forewing up to 9 mm. long.

I have examined one specimen from the collection of the Zoologisches Museum der Humboldt Univ., Berlin, labelled "rhactivana m. Engadin. e. l., H.-Sch.". This specimen differs from the typical form by its colouring. Ground colour of the primaries whitish, pattern brown violet, fringes concolorous with the ground, with a dark striolation. Primaries somewhat broader than in the typical form. I have found three similarly coloured specimens having, however, narrower primaries (coll. I. Z. P. A. S., Warszawa).

F. valderiana Turati & Verity. Ground colour of the primaries light, pattern distinct, sharply marked.

Male genital armature: valva long and narrow; sacculus narrow, well attached to the ventral edge of valva; uncus short; socii small, and broad, strongly haired; transtilla broad; aedeagus somewhat tapered towards the end, bearing two small dorsal thorns.

Female genitalia: labia broad, gonapophyses anteriores and  $_{\rm Acta\ Zoologica\ nr\ 6}$ 

posteriores big; lamella antevaginalis consisting of two narrow lateral parts, they are tapered towards the ends; introitus vaginae fairly much sclerotized; ductus bursae short, signum small.

Geographical distribution: the mountains of the Southern and Central Europe, North-Western Africa, Caucasus, Asia Minor. Imagines appear in June, as well as in August.

Caterpillar feeding in May and June on Euphorbia L., Sedum L., Primula L., Astrantia L., Adenostyles Cass., Centaurea L., Valeriana L. and others.

Examined material:

France — 1 spec.: Gall.-Alp., Constant, Cotypus" (coll. Nat.-hist. Mus., Vienna); 1 spec. "Gallia m. Alpes, 1890, Cst." (coll. I. Z. P. A. S., Warszawa) — Switzerland — 1 spec. "Engadin e. l., H.-Sch" (coll. Zool. Mus. Humb. Univ., Berlin) — Germany — 2 spec. "German. m., 1867" (coll. I. Z. P. A. S., Warszawa) — Austria — 1 spec. "Styria, Tobes Geb., Steyrersee, 1700 m., 15 VI 1934, J. KLIMESCH" (coll. J. KLIMESCH).

# Cnephasia (Anoplocnephasia) orientana (Allhéraky, 1876)

[Pl. XXIV, fig. 63, 64, pl. XLV, fig. 213, pl. XLVI, fig. 214, pl. LX, fig. 284]

Sciaphila orientana Alphéraky, 1876, Trudy Russk. Ent. Obstsh. 10 (1877): 48; Cnephasia gueneana (part.) Meyrick, 1912, Wagner's Lep, Cat. 10: 44; Tortrix gueneana orientana Kennel, 1910, Pal. Tortr.: 199] pl. 10, fig. 27; Filipjev, 1934. Bull. Acad. Sci. URSS 1934: 1408; Razowski, 1958, Acta Zool. Crac. 2: 567, pl. 53, fig. 6, pl. 57, fig. 30, pl. 55, fig. 47.

Size and colouring variable. Primaries narrow, long, in the males expanding outwardly and in the females more equally broad. Costal margin slightly arched. Ground colour distinctly white, pattern dark yellow, yellow brown or orange. Basal speck small, occasionally completely reduced; basal band narrow; medial one distinct. The spots situated at the termen and in the apical area sometimes amalgamated with each other. Fringes whitish at their bases and brown at their tips. Secondaries whitish, sometimes tinged with grey or brown yellow, fringes white. Forewing 7—11 mm. long.

Male genital armature: size variable, valva broad, more or less tapering towards its apex, sometimes strongly elongated;

uncus long, broadened basally, socii very small; transtilla broad; aedeagus broader basally than terminally, strongly-tapering outwardly; gnathos narrow, sacculus list-like closely attached to the ventral edge of valva.

Female genitalia differs conspicuously from those of the remaining species of the group in question. Labia small; gonapophyses anteriores and posteriores long, the lateral parts of lamella antevaginalis much shorter; introitus vaginae strongly sclerotized; ductus bursae very long, signum very small.

Geographical distribution: Cyprus, Southern Ukraine, South-Eastern Russia, Transcaucasia, Syria, Persia and Central Asia. The imagines appear from the first days of March till August, probably in two generations in a year. Early stages and food plant unknown.

#### Genus: Oxypteron STAUDINGER, 1871

Typus generis: Oxypteron impar STAUDINGER, 1871

Oxypteron Staudinger, 1871, Berl. Ent. Ztg. 14 (1870): 276.
Sciaphila (part.) Wocke, 1871, Stgr.-Wck. Cat.: 240.
Cnephasia (part.) Rebel, 1901, Stgr.-Reb. Cat. 2: 91.
Gynoxypteron Speiser, 1902, Berl. Ent. Z. 47: 142.
Tortricodes Walsingham, 1907, Ent. Mo. Mag. 43: 194.
Tortrix (part.) Kennel, 1910, Pal. Tortr.: 195.
Psammozesta (part.) Gozmány, 1954, Ann. Hist. Nat. Mus. Nat.

Psammozesta (part.) GOZMANY, 1954, Ann. Hist. Nat. Mus. Nat. Hung. ser. n. 5: 274.

Oporopsamma (part.) GOZMÁNY, 1954. Ann. Hist. Nat. Mus. Nat. Hung. ser. n. 5: 274.

Head as shown in pl. XXXIV, fig. 142. Labial palps big, somewhat upturned, the biggest is the middle joint. Antennae scaled and haired (pl. XXXIII, fig. 125). Proboscium strongly reduced. Primaries strongly elongated, slender lanceolate. Secondaries broader than the primaries. Costal margin of the forewing slightly arcuate, termen strongly oblique, in the females more oblique than in the males; alar apex acuminate.  $R_2$  and  $r_3$  short, other branches of radius longer,  $r_4$  and  $r_5$  from angle of medial cell running to the alar apex;  $r_4$  touching costa before the alar apex.  $M_1$  and  $m_2$  nearly parallel to each other.  $Cu_1$  from medial cell below inner angle of medial cell,  $cu_2$  nearly

from half its inner edge.  $A_1$  atrophied. In the hind wing se rather straight, rr and  $r_1$  from medial cell near each other or short stalked,  $m_1$  and  $m_2$  remote from each other,  $m_3$  absent,  $cu_1$  and  $cu_2$  distinctly remote from each other (pl. XXXV, fig. 155).

Gozmány (1954) divided Oxypteron STGR. into two subgenera on ground of two distinct groups occurring in this genus and differing from each other by their male genitalia. However, there occurs in Oxypteron STGR. a transitory kind of the structure of male genitalia and, similarly as Obraztsov (1955), I consider the division of the genus in question as wrong. The characteristic feature in the male genital armature is the structure of gnathos, it is broad and poorly visible because of its very delicate sclerotization; there occurs only one place of a strong sclerotization in the central part of gnathos. Socii and uncus thin and small. The shape of valva and sacculus various. Cornuti absent. Female genitalia big, labia of a similar structure as in Cnephasia Curt. or Eana Billb. Lamella antevaginalis broad, however, rather weakly sclerotized, ductus bursae long, partially heavily sclerotized. I have examined female genitalia of only two species, the remaining ones are hitherto unknown. The species of the genus in question are distributed in majority in the Mediterranean region and only O. impar Stgr. is known from Central Asia.

### Oxypteron exiguanum (LAHARPE, 1860)

[Pl. XXV, fig. 65, pl. XLVI, fig. 215]

Sciaphila exiguana Laharpe, 1860, Bull. Soc. Vaudoise Sci. Nat. 1860: 11; Tortricodes chapmani Walsingham, 1907, Ent. Mo. Mag. 43: 195; Tortrix exiguana Kennel, 1910, Pal. Tortr.: 195, pl. 10, fig. 14; Oxypteron exiguana Amsel, 1948, Bull. Soc. Foud. Ier Ent. 1948: 302; Oxypteron exigua (err.) Gozmány, 1954, Ann. Hist. Nat. Mus. Nat. Hung. ser. n. 5: 274.

Primaries narrow, acuminate, costal margin slightly arcuate, termen oblique. Secondaries rather narrow. Ground colour of the primaries ochreous yellow, tinged grey in the basal area, pattern slightly visible, somewhat darker, or absent. Medial band of about equal width; frequently dark dots in

the outer area. Fringes rather concolorous with the ground. Secondaries grey brown, fringes pale whitish. Forewing 5-7 mm. long.

Male genital armature: valva broad, sacculus broad without any separate tip; socii very small, uncus thin, short; aedeagus strongly attached to the plate of anellus, strongly curved and narrowed before the apex, bearing several minute thorns on the ventral side. Female genitalia hitherto unknown.

Distributed in Sicily, Corsica and North-Western Africa. Imagines appear in April.

Early stages and food plant uknown.

I have examined only one male specimen of the species in question labelled "Cors. Palermo, 4. IV 1907" (coll. Nat.-hist. Mus. in Vienna).

### Oxypteron politum (WALSINGHAM, 1907)

[Pl. XXV, fig. 66, 67, pl. XLVI, fig. 216, pl. LXI, fig. 285]

Tortricodes polita Walsingham, 1907, Ent. Mo. Mag. 43: 194; ? Tortricodes impar Lhomme (non Staudinger), 1939, Cat. Lép. France & Belge 2: 270; Tortricodes polita Amsel, 1948, Bull. Soc. Foud. Ier Ent. 1948: 301, fig. 4, 10, 13, 14; Oxypteron Psammozesta neogena Gozmány 1954, Ann. Hist. Nat. Mus. Nat. Hung. ser. n. 5: 274, fig. 1—3; Obraztsov, 1956, Tijdschr. Ent. 99: 118.

Genitalia of the types of O. neogena Gozm. are identical with those of O. politum (Wals.). Obraztsov (1956) considered O. neogena Gozm. as a distinct species on the ground of the wrong figures of genitalia given by Gozmány for O. neogena Gozm., as well as by Amsel (1948) for O. politum (Wals.).

Primaries narrow, termen oblique, costal margin in the male slightly arcuate, in the female more curved. The colouring of the male differs from that of the female. In the male costal margin of the forewing pale whitish tinged grey or yellowish, the remaining surface of the wing grey brownish with an indistinct violet hue. Dorsal margin, especially at the alar base lighter than the central area of the wing. Fringes rather light. Secondaries grey brown, darkened along the peripheries,

sometimes light coloured. Female darker than the male, the light stripe at the costa of the forewing absent, ground colour brown yellowish, pattern consisting of specks and uncomplete bands. Forewing about 10 mm. long.

Male genital armature: valva broad, produced and acuminate ventrally; sacculus narrow swelled together with valva at its end; socii very small, uncus fairly long and thin, aedeagus broad with a small thorn in half of its length.

Female genitalia: labia broad, gonapophyses posteriores three times as long as the anteriores ones, lamella antevaginalis broad, ductus bursae partially strongly sclerotised.

Reported from Spain and North-Western Africa in October (? second generation).

Early stages and food plant unknown.

Examined material:

3 males and 1 female from Madrid and Rivas collected in September 1901—1902 (coll. University of Wrocław, and S. Toll).

#### Oxypteron impar STAUDINGER, 1871

[Pl. XXV, fig. 68, 69, pl. XLVI, fig. 217, pl. LXI, fig. 286]

Oxypteron impar Staudinger, 1871, Berl. Ent. Ztg. 14 (1870): 276; Kennel, 1910, Pal. Tortr.: 226, pl. 11, fig. 17, 18; Amsel, 1948, Bull. Soc. Foud. Ier Ent. 1948: 301, fig. 7, 16; Obraztsov, 1955, Tijdschr. Ent. 98, fig. 220, 221, 273, 274; Obraztsov, 1956, Tijdschr. Ent. 99: 118.

A species coming near the previous one by its coloration. In the male a yellowish or whish stripe on the costa of the primaries, the remaining surface of the wing darker brown yellow or brownish grey. Sometimes dorsal margin also lightened, but the light stripe has smeared edges. In such coloured specimens there is a visible dark stripe running from alar base to the apex. Frequently the dark stripe divided into several spots similarly as in female. The latter usually darker than the male, sometimes uniformly grey brown. Fringes concolorous with the ground. Secondaries similar as in the former species. Forewing up to 10 mm. long.

Male genital armature: valva somewhat narrower and more elongated than in the previous species. The bifurcation on the ventral edge of valva lacking. Sacculus narrow, pointed. Transtilla narrow with some curvatures. Gnathos very weakly sclerotized. Socii very small, uncus thin. Aedeagus fairly narrow, long, strongly bent in half of its length.

Female genitalia: labia broad, gonapophyses posteriores very long. Lamella antevaginalis small, ductus bursae heavily sclerotized on a great distance.

The species in question is reported from South-Eastern Russia, Transcaucasia and Asia.

Examined material:

1 male and 1 female: "Oxypteron impar Stgr., Origin Typus, Sarepta" (coll. Zool. Mus. Humboldt Univ., Berlin); 2 spec. "Rossia m. Sarepta, Chr., 1866 and 1872" (coll. I. Z. P. A. S., Warszawa); 1 spec. "impar Stgr. Sarepta" (coll. University in Wrocław).

#### Oxypteron wertheimsteini (REBEL, 1913)

[Pl. XXV, fig. 70, pl. XLVI, fig. 218, pl. LXI, fig. 287]

Cnephasia wertheimsteini Rebel, 1913, Rov. Lap. Budapest 20: 228, fig. 3, 4; Cnephasia vertheimsteini (err.) Obraztsov, 1935, Ent. Rundsch. 52: 1; Oxypteron Oporopsamma wertheimsteini Gozmány, 1954, Ann. Hist. Mus. Nat. Hung. ser. n. 5: 273, fig. 4, 5; Eana Eana wertheimsteini Obraztsov, 1956, Tijdschr. Ent. 99: 123; Oxypteron amseli Razowski, 1957, Beitr. nat. Forsch. 16: 101, fig. 1.

Obraztsov (1956) considered the species in question as a typical member of the genus Eana BILB., and its genital features as the specific ones only. Gnathos in O. wertheimsteini (Reb.) is, however, weakly sclerotized, and the connection of the aedeagus with the anellus-plate is of a different kind than in Eana BILB. The venation typical for Oxypteron Stgr.  $(m_3)$  in the hindwing lacking).

Wings broader than in the remaining species of the genus discussed. Costal margin of the forewing distinctly arched, alar apex acuminate, termen oblique. Ground colour ashy grey to grey brownish, suffused with dark dots. Pattern slightly marked. Fringes rather concolorous with the ground. Secondaries brownish, fringes concolorous. Forewing about 11 mm. long.

Male genital armature:ovalvanarrow and long, saccululus

massive, curved; the base of uncus broad, socii very small, transtilla narrow. Aedeagus broad basally, further on narrow, curved, produced terminally in a curved thorn. Female genitalia unknown thus far.

The species is distributed in Slovakia, Hungary, Southern Ukraine, as well as in Daghestan. Imagines appear in autumn.

Examined material:

USSR: 1 male "Dierbieit. Iz patekow *Chondrilla juncca*, M. RJABOV, IX 1931" (coll. H. G. AMSEL) — Hungary: "Er Mihalyfolra, 14 IX [18]96, Type", "Csételek, 7 VIII [18]90, Type".

#### Genus: Tortricodes Guenée, 1845

Typus generis: Phalaena tortricella Hübner, 1796

Phalaena (part.) Hübner, 1796, Samml. Eur. Schm., Tin.: 16.

Diurnea (part.) Haworth, 1811, Lep. Brit.: 503.

Eutrachia (part.) Hübner, 1822, Syst.-alph. Verz.: 61.

Oporina Hübner, 1825, Verz. bek. Schm.: 387 (nom. praeoc.).

Tortrix (part.) Fröhlich, 1828, Enum. Tortr. Würt.: 56.

Lemmatophila (part.) Treitschke, 1832, Schm. Eur. 9/1: 39.

Tortricodes Guenée, 1845, Ann. Soc. Ent. Fr. ser. 2, 3: 305.

Cheimatophila Herrich-Schäffer, (non Stephens) 1851, Syst.

Bearb. Schm. Eur. 4: 287.

The head and antennae as shown in fig. 143. The basal joint of labial palps short, the middle one fairly narrow, the apical joint short. Proboscium atrophied. Antennae clothed with rigid hairs and scales. Primaries elongated, expanding outwardly, termen oblique, alar apex usually rounded. Venation characteristic: in the forewing  $r_1$  from medial cell in about half of its length,  $r_2$  and  $r_3$  more distant from each other than  $r_3$  from  $r_4$ , especially at the medial cell. The abscissa  $r_4-r_5$ at the margin of the wing about twice longer than  $r_3-r_4$ ;  $m_2$ ,  $m_3$ , and  $cu_1$  from medial cell near each other;  $m_3$  and  $cu_1$ strongly arched; cu2 just a little above the half of the ventral edge of medial cell. Secondaries broader than primaries. M<sub>3</sub> lacking as in Oxypteron STGR. Sc almost straight, slightly arched only at the costa. The run of rr and  $m_1$  seems to be variable;  $m_2$  and  $cu_1$  fairly distant from each other;  $cu_2$  from about two-thirds of ventral edge of medial cell (pl. XXXV.

fig. 156). In the male genital armature valva narrow, elongated; sacculus massive; uncus long, bent hook-like; socii long; gnathos well developed; aedeagus without cornuti. Female genitalia strongly sclerotized, labia broad of similar structure as in *Cnephasia* Curt., covered with two kinds of hairs; gonapophyses thick; lamella antevaginalis broad; ductus bursae short; signum present.

Hitherto four species belonging of this genus are known. Two of them occur in the European region and two remaining ones are reported from Asia. They appear in early spring. Pupae hibernating. Food-plants: various leaf trees.

#### Tortricodes violellus RAZOWSKI, 1956

[Pl. XXV, fig. 71, pl. LXI, fig. 288]

Tortricodes violellus Razowski, 1956, Zeit. Wien. Ent. Ges. 41: 204, fig. 1, 2.

Costal margin of the primaries gradually arched, apex acuminate, termen oblique. Colouring uniform grey brown with a faint violet hue and strong lustre. Secondaries rather concolorous with the primaries. Female genitalia similar to those of T. tortricella (Hbn.) differing, however, by their narrow introitus vaginae and signum consisting of two thorns, one of which is very long.

Only one female (holotype) of this species is hitherto known. It is labelled "S. Maria d. Lago, Is Medela, 11 IV 1906" (Spain) (coll. Nat.-hist. Mus., Vienna).

### Tortricodes tortricella (HÜBNER, 1796)

[Pl. XXV, fig. 72, pl. XXVI, fig. 73, pl. XLVII, fig. 219, pl. LXI, fig. 289]

Phalaena Tinea tortricella, 1796, Samml. Eur. Schm. Tin.: 16, pl. 2, fig. 11; Diurnea nubilea Haworth, 1811, Lep. Brit.: 503; Diurnea tortricea Haworth, 1811, Lep. Brit.: 503; Eutrachia hyemana Hübner (1818—19, Samml. Eur. Schm. Tortr. pl. 42, fig. 267, non binom.), 1822, Syst.-alph. Verz.: 61; Tortrix abietana Frölich (non Fabricius) 1828, Enum. Tortr. Würt.: 56; ? Phalaena Tinea alternella Schiffermüller & Denis, 1776, Syst. Verz. Schm. Wien. Geg.: 135; Lemmatophila alternella Treitschke,

1832, Schm. Eur. 9/1: 39; Lemmatophila hyemella Treitschke, 1835, Sch. Eur. 10/3: 154; ? Tortrix alstroemeriana Werneburg, 1864, Beitr. Schm. Kunde 1: 462, 553; Tortricodes tortricella Kennel, 1910, Pal. Tortr.: 224, pl. 11, fig. 15; Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 14, pl. 6; Benander, 1950, Svensk. Insektf.: 49, fig. 2 e, 4 j; Obraztsov, 1955, Tijdschr. Ent. 98; fig. 222, 223, 295—298; Obraztsov, 1956, Tijdschr. Ent. 99: 118; Bradley & Martin, 1956, Ent. Gaz. 7, pl. 6; Razowski, 1957, Acta Zool. Crac. 1: 120, pl. 14, fig. 4, pl. 20, fig. 2, pl. 23, fig. 5, 6.

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Primaries expanding outwardly, costal margin nearly straight, alar apex rounded, termen oblique. Ground colour grey, grey brown or grey yellowish, more or less darkened. A spot or a band in the basal area of the wing. Medial band broad. Several minute specks in the outer area, they are sometimes amalgamated with each other or even with the medial band. Fringes concolorous with the ground. Secondaries broad, grey brown, fringes concolorous. The pattern of the forewing has a tendency of being reduced. Forewing 9—11 mm. long.

Male genital armature much sclerotized, valva broad basally, further on narrowed and elongated, narrowed terminally; sacculus broad, rolling on the valva while preparing; separate tip of sacculus very short; tegumen strongly sclerotized, broad; uncus long, thin; socii very narrow; gnathos long, widened terminally and hook-like tipped; aedeagus strongly bent, rather thin, long, provided with an extending bone-like piece of hard chitin.

Female genitalia also much sclerotized (especially gonapophyses and lamella antevaginalis). Lamella antevaginalis broad, simicircular with pointed ends. Ostium bursae round, introitus vaginae strongly sclerotized and widened at lamella antevaginalis, narrowed towards ductus bursae. The latter short, bursa copulatrix rather round, signum fairly small consisting of minute spines. Gonapophyses posteriores thinner and longer than the anteriores ones. Lamella subgenitalis narrow.

The species occurs nearly in all of Europe except its southeastern regions. Imagines appear in early spring (February, March), occasionally also in autumn. The specimens appearing in autumn hibernate. The males fly in sunshine.

The caterpillar red brown with yellowish tubercles, subdorsal

and dorsal lines. Head black. Thoracic plate light brown, edged with black laterally. Caterpillar feeds in May and June. They devour parenchyma and the roll leaves of *Carpinus betulus* L., *Prunus spinosa* L., *Quercus* L., *Tilia* L., *Corylus* L. and others.

Examined material:

Italy — 2 spec. from the environs of Bologna (leg. et coll. A. Fiori) — Poland — many spec. from Kraków, Tyniec, Dulowa, Krzeszowice, Ojców, Zawiercie taken in February and March (coll. I. Z. P. A. S., Warszawa and author's coll.).

### Genus: Neosphaleroptera Réal, 1953

Typus generis: Tortrix nubilana HAWORTH, 1811

Tortrix (part.) Haworth, 1811, Lep. Brit.: 467.
Olethreutes (part.) Hübner, 1811, Syst.-alph. Verz.: 63.
Eudemis (part.) Hübner, 1825, Verz. Bek. Schmet.: 382.
Sciaphila (part.) Treitschke, 1829, Schmet. Eur. 7: 233.
Cnephasia (part.) Stephens, 1829, Syst. Cat. Brit. Ins. 2: 181.
Zeiraphera (part.) Curtis, 1838, Brit. Ent. expl. t. 711.
Lozotenia (part.) Herrich-Schäffer, 1851, Syst. Bearb. Schmet.
Eur. 4: 168.

Grapholitha Portshinskij, 1888, Selsk. Chozj. Lesovod. 159: 126. Eulia (part.) Rebel, 1901, Stgr.-Reb. Cat. 2: 88.

Nephodesme (part.) PIERCE & METCALFE, 1922, Genit. Tortr. Brit. Isl.: 14.

Neosphaleroptera Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56. Genus Neosphaleroptera Réal comprises the only species N. nubilana (HAW.) resembling the members of Cnephasia Curt. by its external appearance differing from them, however, by the structure of genitalia.

Labial palps short, fairly narrow, apical joint short (pl. XXXIV, fig. 144). Venation very similar as in *Cnephasia* Curt. (pl. XXXV, fig. 157). The structure of male genital armature somewhat similar as in *Euledereria* Fern. Valva broad; sacculus massive, bifurcated terminally, smooth, without the minute hairs occurring in *Cnephasia* Curt. Uncus long; aedeagus and anellus-plate connected with a long piece. Female genitalia differing from those of other genera of *Cnephasiinae*. Lamella antevaginalis short and broad, funnel-shaped; ductus bursae short, signum reduced.

## Neosphaleroptera nubilana (HAWORTH, 1811)

[Pl. XXVI, fig. 74, 75, pl. XLVII, fig. 220, pl. LXI, fig. 290]

Phalaena Tortrix alniana Schiffermüller & Denis, 1776, Syst. Verz. Schmet. Wien. Geg.: 132, nom. nud.; [Tortrix] nubilana Hübner, 1796—99, Samml. Eur. Schmet., Tortr. pl. 17, fig. 111, non. binom.; Tortrix nubilana HAWORTH, 1811, Lep. Brit.: 467; Tortrix glareana Schrank, 1802, Fauna Boica 2/2: 83, Frölich, 1828, Enum. Tortr. Würt.: 55: Sciaphila hybridana Duponchel, 1836, Hist. Nat. Lép. Fr. 9: 550, pl. 266, fig. 6; Lozotaenia oxyacanthana Herrich-Schäffer, 1848, Syst. Bearb. Schmet. Eur. pl. 22, fig. 161, non. binom.; 1851, 4: 168; Tortrix Grapholitha conradii Portshinskij, 1888, Selsk. Chozj. Lesovod. 159: 126, fig. 12; Tortrix nubilana Kennel, 1910, Pal. Tortr.: 213, fig. 22, pl. 11, fig. 4, 5; Nephodesme nubilana Pierce & Metcalfe, 1922. Genit. Tortr. Brit. Isl.: 14, pl. 6; Cnephasia nubilana DIAKONOFF, 1939, Zool. Med. Mus. Leiden 21: 205, fig. 12 E; Benander, 1950, Svensk Insektf.: 47, fig. 6 t; Cnephasia Neosphaleroptera nubilana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56; Nesosphaleroptera nubilana Obraztsov, 1955, Tijdschr. Ent. 98: 293, 294, 299, 302; Obraztsov, 1956, Tijdschr. Ent. 99: 119; Mar-TIN & BRADLEY, 1956, Ent. Gaz. 7, pl. 6; RAZOWSKI, 1957, Acta Zool. Crac. 1: 16, fig. 3, pl. 21, fig. 3, pl. 24, fig. 6, pl. 25, fig. 1.

Ab. perfuscana (HAWORTH, 1811).

Tortrix perfuscana Haworth, 1811, Lep. Brit.: 467; Cnephasia Eudemis nubilana (part.) Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 66.

Sexual dimorphism distinct. Males somewhat smaller than the females. Primaries in males slightly expanding outwardly costal margin arched, termen slightly oblique, alar apex rounded. Ground colour darker than in females, brown grey, sometimes transversally stripped with darker, pattern indistinct. Medial band and terminal spot faintly marked, frequently amalgamated with each other. Secondaries dark brown grey, fringes concolorous. Female: primaries more equally wide, costal margin more arched. Ground colour lighter, more grey, sometimes very light. Pattern dark brown. Basal band arched outwardly, medial one broad, frequently interrupted just a little beyond half of the wing's width. Terminal spot frequently amalgamated with a large dark cloud situated at the termen. Fringes concolorous with the pattern. Secondaries brownish, fringes concolorous. Forewing up to 8 mm. long.

Ab. perfuscana (Haw.). Dark coloured brown black females. Male genital armature: sacculus very characteristic, bifur-

cated. Uncus long and pointed. Aedeagus bent, faintly dentate terminally. Gnathos broad.

Female genitalia: lamella antevaginalis funnel-shaped, edges with some curvatures. Ductus bursae very short. Bursa copulatrix rounded, signum absent. Labia similar as in *Cnephasia* Curt. covered with two kinds of hairs.

Distributed nearly in all of Europe (exept in South-Western regions) and Asia Minor. It appears in June and July.

Caterpillar light green, head brown, thoracic plate brown green. It feeds on *Crataegus* L., *Prunus* L., *Pirus* L. and other trees.

Examined material:

France — 2 spec. from Burgundia, 1890 (coll. I. Z. P. A. S., Warszawa) — Germany — 1 spec. form Kallenhusen bei Lübeck (coll. H. G. Amsel) — Austria — 2 spec. "Austria Mn. 1864" (coll. I. Z. P. A. S., Warszawa) — Yugoslavia — 1 spec. from Dalmatia, Cuciste (coll. I. Z. P. A. S., Warszawa) — Poland — many spec. from Pieniny Mts., Rytro, Ustroń-Równica, Kraków, Stemplew, Jamy distr. Grudziądz (coll. I. Z. P. A. S., Warszawa and Kraków, coll. S. Toll and author's coll.) — USSR — 2 spec. from Western Podolia: Ubieżowa, Zaleszczyki (coll. S. Toll).

#### Genus: Eana BILBERG, 1820

Typus generis: Tortrix penziana Thunberg, 1791

Phalaena (part.) CLERCK, 1759, Icon. Ins.

Pyralis (part.) FABRICIUS, 1775, Syst. Ent.: 651.

Tortrix (part.) THUNBERG & BECKLIN, 1791, Diss. Ent. 2: 43.

Eana BILBERG, 1820, Enum. Ins.: 90.

Palpita (part.) HÜBNER, 1822, Syst.-alph. Verz.: 55.

Eustrachia (part.) HÜBNER, 1822, Syst.-alph. Verz.: 62.

Archips (part.) HÜBNER, 1825, Syst.-alph. Verz.: 63.

Ablabia HÜBNER, 1825, Verz. Bek. Schmet.: 383.

Nephodesme HÜBNER, 1825, Verz. Bek. Schmet.: 390.

Cnephasia (part.) Curtis, 1826, Brit. Ent. expl. pl. 100.

Argyroptera Duponchel, 1834, Hist. Nat. Lép. Fr. 9: 24.

Nephodesma Stephens, 1834, III. Brit. Ent. Haust. 4: 127.

Nephodesma Stephens, 1834, Ill. Brit. Ent. Haust. 4: 127 (nom. emend. pro Nephodesme Hübner).

Aphelia Guenée, 1845, Ann. Soc. Ent. Fr. ser. 2, 3: 305.
Sciaphila (part.) Duponchel, 1846, Cat. Méth. Lép. Eur.: 298.
Syndemis (Part.) Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 64.
Doloploca Kennel (non Hübner), 1919, Mitt. Münch. Ent. Ges.
8 (1817/18): 64.

Hypostephanuntia Obraztsov (non Réal), 1955, Tijdschr. Ent. 98: 172.

This genus was hitherto frequently connected by various writers with Cnephasia Curt. That was made on the base of a great similarity of the both above mentioned genera. — Venation (pl. XXXV, fig. 158) similar as in Cnephasia Curt., only in some individual species of Eana BILB. one can find slight differences. Antennae scaled and shortly haired. Labial palps very characteristic: they are considerably longer than those of Cnephasia Curt., and the middle joint is not triangularshaped (pl. XXXIV, fig. 145). Male genital armature of Eana BILB. differs more from that of Cnephasia Curt. than the female one. Valva strongly elongated; sacculus always with a separate tip, the latter lacks the minute hairs occurring in Cnephasia CURT. Uneus of various structure, but characteristic for some groups of species. Aedeagus usually long, most frequently smooth, sometimes bearing processes. Cornuti always absent. Socii big, transtilla broad covered with extremely short rigid hair. Female genitalia: labia broad often unsymmetrical. never coalescent as in Cnephasiella Adamcz, covered with two kinds of hairs as in Cnephasia Curt., the swellings on the shorter hairs are, however, weaker than in Cnephasia CURT. Lamella subgenitalis and gonapophyses massive. Lamella antevaginalis narrow, its lateral parts usually elongated and pointed. Introitus vaginae well developed, often heavily sclerotized. Ductus bursae of various length. Signum narrow filiform, frequently consisting of many rows of spikes.

Obraztsov (1955) erroneously included subgenus Hypostephanuntia Réal to the synonyms of the genus in question, and he wrongly placed Oxypteron wertheimsteini (Reb.) into Eana Bilb. Hypostephanuntia Réal. rather does not differ from the other subgenera of Cnephasia Réal. The differences cited by Réal (1951) are without doubt only the specific ones. The venation of the wing, as well as the structure of genitalia points out the including of the species Cnephasia wertheimsteni Reb. to Oxypteron Stgr.

The pattern of the primaries in the species of *Eana* BILB. in general similar as in the other *Cnephasiinae*; one can see the common characters. There is a dependence between the

pattern of the wings and the structure of genitalia on the other hand. The major part of the members of Eana Bilb. are grey coloured and rather similar to each other. The remaining several species are, however, light coloured and easily distinguished from each other. The ground of the primaries in the species of Eana Bilb. lighter than the pattern, secondaries usually grey brown, more or less darkened. Despite the variability in the external characters of several species, the habitus is sometimes more important feature than the structure of the genitalia. The genital specific differences are more distinct in the males than in the females. Sexual dimorphism rather distinct.

Genus Eana BILB. is divided into two subgenera namely Ablabia HBN. and Eana BILB. s. str. Obraztsov (1956) placed in Ablabia HBN. six species; they differ, however, between each other, and one of them namely E. incanana (Stgr.) presents a typical member of Eana BILB. s. str. The essential difference distinguishing the members of the two above mentioned subgenera seems to be the structure of the female genitalia and the shape of aedeagus in the male genital armature. The colouring of the wings is rather an important character, too.

I placed in the Ablabia Hbn. two holarctic species, namely Eana (Ablabia) osseana (Scop.) and E. (A.) argentana (Cl.). The species of Eana Bilb. s. str. form several groups, the members of which are rather closely related to each other. The principal characteristic feature of these group is the structure of male genital armature (it will be discussed with

the characteristic of Eana Bilb. s. str.).

### Key to the subgenera

#### Subgenus: Ablabia HÜBNER, 1825

Typus subgeneris: Phalaena osseana Scopoli, 1763

The both species of the subgenus are similar to each other in their external characters, as well as in the structure of genitalia. Primaries unicolorous or with very faintly marked transversal bands. Male genital armature massive, valva slender, sacculus broad and short, extending vertically to the ventral edge of valva, straight or almost straight. Uncus broad basally, not pressed into the swelling of its base. Gnathos without a terminal plate or thorns, broadened only at its corners. Aedeagus terminated with a small thorn. Female genitalia: lamella antevaginalis characteristic, broad with unequal edges and not tapered laterally in two long and pointed pieces. Introitus vaginae rather heavily sclerotized. Ductus bursae fairly short. Labia fairly small, almost symmetrical.

### Eana (Ablabia) argentana (CLERCK, 1759)

[Pl. XXVI, fig. 76, pl. XLVII, fig. 221, pl. LXI, fig. 291]

Phalaena argentana Clerck, 1759, Icon. Ins. pl. 11, fig. 14; Phalaena Tortrix goiana Linnaeus, 1761, Fauna Suec, ed. 2: 349; Phaaena Tortrix gouana Linnaeus, 1767, Syst. Nat. ed. 12, 1: 879; [Pyralis] margaritalis Hübner, 1796, Samml. Eur. Schm. Pyral. pl. 8, fig. 48 (non. binom.); Palpita margaritalis Hübner, 1822, Syst.-alph. Verz.: 55; [Tortrix] magnana Hübner, 1811—13, Samml. Eur. Schm. Tortr. pl. 36, fig. 225, 226 (non. binom.); Tortrix magnana Zincken, 1821, Charpentier's Zinsler Wickler: 37; Myelois georgiella Hulst, 1887, Ent. Amer. 3: 136; Tortrix argentana Kennel, 1910, Pal. Tortr.: 196, pl. 10, fig. 17; Nephodesme argentana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 14, pl. 6; Cnephasia argentana Benander, 1950, Svensk. Insektf.: 47; Cnephasia (Ablabia) argentana Réal; 1953, Bull. Mens. Soc. Linn. Lyon 22: 52; Razowski, 1957, Acta, Zool. Crac. 1: 122, pl. 15, fig. 2, pl. 20, fig. 4, pl. 24, fig. 7; Eana argentana Obraztsov, 1955, Tijdschr. Ent. 98; fig. 285; Obraztsov, 1956, 99: 120; Bradley & Martin, 1956, Ent. Gaz. 7, pl. 7.

Costal margin of the primaries faintly arcuate, alar apex rounded, termen oblique. Primaries unicolorous white silvery, fringes concolorous. Secondaries white, sometimes tinged with grey or grey yellow. Fringes white. Forewing 10—12 mm. long.

Male genital armature: valva slender, sacculus broad strongly curved, extending vertically from the ventral edge

of valva. Uncus big, broad basally, further on narrow and acuminate. Socii large, gnathos broadened at its corners. Aedeagus rather broad, terminated with a small thorn.

Female genitalia: ostium bursae broad, distant from the proximal edge of lamella antevaginalis; this edge is not flourished upwardly. Introitus vaginae more heavily sclerotized than duetus bursae, the latter short.

Caterpillar feeds probably in the roots of *Graminae*. Imagines appear in June and July. The species is widely distributed in Europe. North-Western Africa, Asia Minor, Caucasus, Central Asia, Kashmir, Siberia, India, Japan and North America. The form occurring in India and Japan seems to be a distinct subspecies or even species.

Examined material:

Italy — several spec. from the environs of Bologna (coll. A. Figri and author's coll.) — Poland — many spec. from Tatry Mts., Rytro, Pieniny Mts. (coll. I. Z. P. A. S., Kraków and author's coll.).

#### Eana (Ablabia) osseana (Scopoli, 1763)

[Pl. XXVI, fig. 77, 78, pl. XLVII, fig. 222, pl. LXII, fig. 292]

Phalaena osseana Clerck, 1763, Ent. Carn.: 238; Tortrix quadripunctana Наworth, 1811, Lep. Brit.: 468; [Tortrix] pratana Hübner, 1811—13, Samml. Eur. Schm. Tortr. pl. 36, fig. 227, 228, (non. binom.); Tortrix pratana Hübner, 1822, Syst. Alph. Verz.: 63; Cnephasia gentiana Curtis, 1826, Brit. Ent. expl. pl. 100; Tortrix boreana Zetterstedt, 1840, Ins. Lapp.: 980; Aphelia quadripunctata (err.) Wood & Westwood, 1852, Ind. Ent.: 147, pl. 33, fig. 995; Tortrix stelviana MILLIÈRE, 1874, Icon. Descr. Lép. 3: 434, pl. 153, fig. 11—14; Cnephasia biformana Hauder, 1913, Jahresber. Mus. Franc. Carol. 71: 95; Tortrix osseana Kennel, 1910, Pal. Tortr.: 195, pl. 10, fig. 15; Nephodesme osseana Pierce & Metcalfe, Genit. Tortr. Brit. Isl.: 13, pl. 6; Cnephasia osseana Benander, 1950, Svensk Insektf.: 47, fig. 6 v; Cnephasia (Ablabia) osseana f. ind. pseudolongana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 52; Cnephasia (Ablabia) osseana race borreoni Réal, 1953, Bull. Soc. Linn. Lyon 22: 52: Eana osseana OBRAZTSOV, 1956, Tijdschr. Ent. 99: 120; BRADLEY & MARTIN, 1956, Ent. Gaz. pl. 7; Cnephasia (Ablabia) osseana Razowski, 1957, Acta Zool. Crac. 1: 122, pl. 15, fig. 1, pl. 20, fig. 3, pl. 23, fig. 7, 8.

Ab. impunctana (STRAND, 1910).

Cnephasia osseana ab. impunctana Strand, 1910, Nyt. Mag. Naturvid. 39: 67; Cnephasia pallida Müller-Rutz, 1920, Mitt. Ent. Zürich 5: 338, Acta Zoologica nr 6

pl. 2, fig. 3; Cnephasia (Ablabia) osseana f. ind. sulfatarana RÉAL, 1953, Bull. Mens. Soc. Linn. Lyon 22: 52; Cnephasia (Ablabia) osseana RÉAL, 1953, Bull. Mens. Soc. Linn. Lyon 22: 52; Cnephasia (Ablabia) osseana race alpicola RÉAL, 1953, Bull. Mens. Soc. Linn. Lyon 22: 61.

Primaries slender, slightly expanding outwardly, costal margin slightly arched, alar apex rounded, termen oblique. The colouring of the primaries very variable. Pattern present or more or less reduced, consisting of an indistinct trace of medial band or two specks situated in the wing's centre. Outer portion of the wing usually darker than the basal one. Pattern dark brown, ground yellowish grey, yellow brown to brown grey. Sometimes primaries dusted with lustrous scales. Fringes distinctly lighter than the ground, more whitish. Secondaries grey to grey brown, more or less darkened, fringes light. Forewing 9—11 mm. long.

Male genital armature differs from that of the previous species by its broader and shorter valva, and narrower, less curved sacculus. The latter terminated with a short separate tip. Socii large. Aedeagus narrow, long, terminated with a small thorn.

Female genitalia: lamella antevaginalis broad with pointed ends; ostium bursae similarly built as in the previous species. Introitus vaginae more heavily selerotized than ductus bursae.

Caterpillar grey. Tubercles, thoracic and anal plate black, lustrous. Head brownish, spotted with black. Thoracic plate distinctly divided with a light line. Larva polyphagous, living in May and June in the tubular cocoons among the moss and under the stones. Imagines appear from end of May to end of July. The species occurs in lowland regions, as well as in the mountains. It is reported almost from all Europe (except Iberian Peninsula, Southern Italy and Greece), Iceland, Siberia and North America.

Examined material:

Austria — 1 male from Veldes, Oberkrain; 1 spec. from Tirol (coll. S. Toll) — Poland — many spec. from Tatry Mts., Rytro, Barania Góra, Czarny Dunajec distr. Nowy Targ, Stemplew distr. Grudziądz, Bydgoszcz (coll. I. Z. P. A. S., Kraków and coll. S. Toll) — USSR — 2 spec. from Western Podolia (Wołczków distr. Zaleszczyki and Babińce ad Krzywcza) (coll. S. Toll).

Subgenus: Eana BILBERG s. str., 1820

Typus subgeneris: Tortrix penziana Thunberg, 1791

To this subgenus belongs the major part of the members of the genus discussed. Male genital armatures of various structure. Valva long, sacculus usually narrow, acuminate terminally; uncus more or less long, frequently pressed into the swellings of its base; gnathos sometimes provided with a thornshaped process, or similar as in the members of the previous subgenus; aedeagus without a terminal thorn, sometimes. however, with an internal thorn-like process. The group of E. nervana (Joan.) is an exception from this rule. In the members of this group aedeagus has a different structure and bears a thorn on its dorsal edge. In these species uncus differs also from that of the representatives of other group of the subgenus discussed by its broad base. In the female genitalia the lateral pieces of lamella antevaginalis narrow. Ostium bursae closed with its flourished proximal edge, situated at the bottom of thus formed cavity. Introitus vaginae sometimes heavily sclerotized, of a very characteristic structure in respective species. Ductus bursae fairly long, bursa copulatrix occasionally very big, Colouring characteristic for the species, sometimes variable. Pattern consisting of transversal bands. I divide the species belonging to the subgenus in question into three groups namely: related to E. nervana (Joan.), E. canescana (GUEN.) and E. derivana (LAH.).

#### GROUP 1

Group type: Eana canescana (GUEN.)

Obraztsov (1956) wrongly placed the species of this group in the subgenus *Ablabia* Hbn., the structure of their female genitalia are, however, very similar to those of the members of the discussed subgenus. The characteristic feature in the male genital armatures is the structure of uncus and gnathos. Gnathos terminated as a long thorn-like process. Uncus elongated, its basal parts are gradually and slightly

expanding. Transtilla broad, aedeagus smooth. Female genitalia rather similar to those of the species of the next groups. The species of the discussed group are very similar to each other by their colouring. Primaries whitish, pattern darker sometimes smeared. The species occur in the mountainous and submontainous districts of Europe.

### Eana (Eana) rielana (RÉAL, 1951)

[Pl. XLVIII, fig. 223]

Cnephasia (Ablabia) rielana Réal, 1951, Bull. Mens. Soc. Linn. Lyon 20: 230, fig. 5.

In the external character resembling E. penziana (THNBG.). Primaries of similar shape as in that species and considerably narrower and longer than in the related E. canescana (GUEN.). Costal and dorsal margin nearly parallel to each other, apex rounded, termen oblique. Ground colour very characteristic uniformly creamy white. Basal band presents the most distinct component of the pattern, arched outwardly and touching dorsum. Medial band considerably oblique in relation to the basal one, and interrupted just a little beyond the middle of wing's width. Outer area of the wing with a pattern consisting of many dark specks and interrupted band, it is, however, not darkened. Fringes concolorous with the ground in the middle of wing's length, stripped with darker. Secondaries concolorous with the primaries, but somewhat lighter and tinged yellow in the apical area. Fringes concolorous with the ground. Head, labial palps and thorax concolorous with the ground of the primaries. Forewing 11 mm. long.

Male genital armature in its outlines seems to be similar to that of *E. canescana* (GUEN.); it is, however, rather difficult to explain this problem because of the damaged preparation of the type specimen. This preparation lacks uncus, one valva and the tip of gnathos. Probably aedeagus is broken and plucked off. — Valva narrow, long; sacculus long and pointed, uncus somewhat shorter than in *E. canescana* (GUEN.). I have examined the preparation of the type, as well as the repro-

duction of it given by Réal (1951). This figure seems to be drawn from the preparation without a cover glass.

I have examined the only specimen (type) of the species in question. It is labelled: "Monotyp. Holotypus, Lyon, male, Venant des Bassen-Alpes, 5 août 1911, leg. RIEL".

### Eana (Eana) hungariae RAZOWSKI, 1958

[Pl. XXVI, fig. 79, pl. XLVIII, fig. 226]

Eana (Eana) hungariae, RAZOWSKI, 1958, Acta Zool. Crac. 2: 568, pl. 53, fig. 7, pl. 57, fig. 31.

The species strongly resembling *E. penziana* (Thnbg.) by its external appearance being, however, very light coloured. Costal margin of the primaries slightly curved, alar apex rounded, termen oblique. Ground colour pure white, pattern grey yellow very indistinct, constisting of a basal band, a medial one, a faint darkening in the outer area and several dark specks situated at the termen. Fringes concolorous with the ground. Secondaries light white yellowish, fringes concolorous. Palps, head and thorax concolorous with the ground of the primaries. Forewing about 11 mm. long.

Male genital armature: uncus more massive and valva broader than in the former species; sacculus long and curved, its extending part long and pointed; socii very large and broad; gnathos terminated with a big thorn; aedeagus considerably shorter than that of the next species. Socii clothed with strong and long hairs.

Only one male of this species (holotypus) is hitherto known. It is labelled "var. hungariae, Kindermann (coll. Zool. Mus. Humb. Univ., Berlin).

### Eana (Eana) canescana (GUENÉE, 1845)

[Pl. XXVI, fig. 80, pl. XXVII, fig. 81, 82, pl. XLVIII, fig. 224, 225, pl. LXII, fig. 293]

Sciaphila canescana Guenée, 1845, Ann. Soc. Ent. Fr. ser. 2, 3: 166; Sciaphila styriacana Herrich-Schäffer, 1851, Syst. Bearb. Schmet. Eur. 4: 198 (1847, Tortr. pl. 17, fig. 119, 120 non. binom.); Sciaphila monochromana Lederer, 1859, Wien. Ent. Mnschr. 3: 252; Sciaphila penziana (part.) Lederer, 1859, Wien. Ent. Mnschr. 3: 252; Tortrix canescana Kennel, 1910, Pal. Tortr.: 210, pl. 10, fig. 54; Nephodesme canescana Kremky, 1935, Ann. Mus. Zool. Pol. 11: 127, pl. 20, fig. 10, 14; Toll,

1954, Bull. Soc. Ent. Mulhouse 1954: 54, fig. 3, 5; Cnephasia (Ablabia) canescana f. ind. grisescana Réal, 1953, Bull. Mens. Soc. Soc. Linn. Lyon 22: 52; Ablabia canescana f. ind griseana (err.) Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 61; Eana canescana Obraztsov, 1956, Tijdschr. Ent. 99: 120; Cnephasia (Ablabia) canescana Razowski, 1957, Acta Zool. Crac. 1: 123, pl. 15, fig. 3, pl. 20, fig. 5, pl. 24, fig. 2; Eana (Eana) canescana Razowski, 1958, Acta Zool. Crac. 2: 568, pl. 57, fig. 32.

Ab. filipjevi (Réal, 1953).

Cnephasia (Ablabia) canescana ssp. filipjevi Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 52.

Ab. montserrati (RÉAL, 1953).

Cnephasia (Ablabia) canescana f. ind. montserrati Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 53.

Ab. candidana (LAHARPE, 1858).

Sciaphila candidana Laharpe, 1858, Faune Suisse 6: 51; Sciaphila styriacana (part.) Wocke, 1871, Stgr.-Wck. Cat.: 240, no. 776 a; Cnephasia canescana (part.) Rebel, 1901, Stgr.-Rbl. Cat. 2: 92; Tortrix styriacana Kennel, 1910, Pal. Tortr. pl. 10, fig. 55; Müller-Rutz, 1929, Mitt. Schweiz. Ent. Ges, 14, pl. 1, fig. 4 b—c.

Ab. venansoni (Réal, 1953).

Cnephasia (Ablabia) canescana f. ind. venansoni Réal, 1953, Bull. Men. Soc. Linn. Lyon 22: 53.

Primaries broad, costal margin arched, alar apex rounded, termen faintly oblique. Ground colour white to white grey, transversally stripped with grey. Pattern usually distinct consisting of a basal band, medial band, and incomplete outer band. The last is formed by a spot situated in the apical area and a darkening at the termen. The two latter components of the pattern frequently connected forming a transversal band. Medial band frequently interrupted. Pattern has a tendency to dissection and reducing. Fringes concolorous with the ground. Secondaries light grey yellowish, fringes lighter. Forewing 7—9 mm. long.

Ab. filipjevi (RÉAL). Ground colour of the primaries grey yellowish. The basal band is the most distinct compontent of the pattern. Medial band grey, darkened in its costal portion at the costa and below the medial band. Several dark specks. Reported from Central and Eastern Pyrenees.

Ab. montserrati (RÉAL). The specimens coloured similarly as the previous aberration, however, without a bluish hue. Pattern similar as in the typical form.

I have examined one interesting male specimen from the coll. I. Z. P. A. S. (Warszawa) labelled "Gallia mer., Alpes, Sct. 1892". It differs from the typical form by the colouring and resembles rather *E. pyrenaica* (Toll). It is rather difficult to explain the systematical position of this form basing only on one specimen of it. Genital armature of this specimen similar as in the species in question having, however, some features in common with *E. pyrenaica* (Toll). Primaries whitish, basal band distinct, narrow, arched outwardly, isolated from the dorsal margin. Medial band very indistinct, light, narrow. Outer area of the wing light with several darker spots. Fringes concolorous with the ground, stripped with darker.

Ab. candidana (LAH.). Primaries broader than in the typical form, ground colour light, pattern distinct.

Male genital armature: valva elongated; sacculus long and massive, its separate tip acuminate; uncus elongated, acuminate; tegumen fairly narrow; gnathos terminated with a thorn-like process; transtilla broad; aedeagus long, of about equal width.

Female genitalia: lamella antevaginalis with long and acuminate lateral parts and concave distal edge; ostium bursae surrounded with a heavily sclerotized part of introitus vaginae; ductus bursae fairly long; bursa copulatrix elongated; signum big.

The species appears in June and July. Distributed in Central and Southern Europe.

Caterpillar feeds on Saponaria L., Hippocrepis comosa L., and others.

Examined material:

France — I spec. form Vernet (coll. Mus. Hist. Nat., Paris); I spec. from Southern Alps (coll. Zool. Mus. Humb. Univ., Berlin) — Italy — I spec. from Trentino, Pinzolo, I spec. from Cuneo, Crissolo; 3 spec. from Piemonte, Biella, Alta Val Cervo leg. A. Fiori (author's coll.) — Yugoslavia — I spec. from Serbia, Zebe, I spec. from Macedonia, Matka (coll. Zool. Mus. Humb. Univ., Berlin) — Austria — 2 spec. "Styriaceana H. Sch., Typus", 3 spec. "Wien" (coll. Zool. Mus. Humb. Univ., Berlin); 4 spec: from Alps (coll. I. Z. P. A. S., Warszawa); I spec. from Carinthia, Millstatt (coll. H. G. Amsel) — Poland — several spec. form Pieniny Mts., Podgórki ad Kraków, Zawiercie, Pomorzany-Olkusz (coll. S. Toll and author's coll.).

### Eana (Eana) pyrenaica (Toll, 1954)

[Pl. XXVII, fig. 83, 84, pl. XLIX, fig. 227, pl. LXII, fig. 294]

Nephodesme pyranaica Toll, 1954, Bull. Soc. Ent. Mulhouse 1954: 45, fig. 1, 2, 4 (3,  $\varphi$  genit.).

Primaries of about equal width, costal margin strongly arched, alar apex rounded, termen oblique. Ground colour grey or cinereous, more or less darkened. Pattern distinct, brown grey, occasionally grey. Basal area frequently darkened; basal band brown, very distinct, arched outwardly; medial band considerably lighter than the basal one, broad at the costa and twice narrowed or even interrupted below. Several dark grey specks at the costa above the medial band. They are connected sometimes into a narrow band pointed to the termen. Ground frequently transversally dark stripped. Fringes concolorous with the ground. Secondaries grey white tinged with darker and more brown in the apical area. Fringes grey white. Forewing about 12 mm. long.

Male genital armature of similar structure as in the previous species, having, however, broader tegumen which forms a widening at the socii, somewhat shorter aedeagus and broader big gnathos.

Female genitalia similar as in the former species. Lamella antevaginalis less concave, ductus bursae fairly short.

The species is reported from the Pyrenees. It appears in June and July. Eearly stages and food plant unknown.

Examined material:

France — holotype and allotype "Hautes Pyrenées, Cauterets VII 1894, T. Seebold" (coll. S. Toll); 7 males and females from Cauterets (coll. I. Z. P. A. S., Warszawa); 2 males "France, Gèdre, Hautes Pyrenées VI 1928, coll. Otto Bubacek" (coll. Übersee Mus., Bremen).

#### GROUP 2

Group type: Eana nervana (JOAN.)

In the male genital armature sacculus short, terminated with a minute separate tip; the base of uncus broad; aedeagus of a characteristic structure: deeply concave from the end

to its middle, provided with a small dorsal knob-like swelling terminally, the latter is of a different kind than the thorn-like piece on the aedeagus appearing in the species of the former subgenus. In the female genitalia lamella antevaginalis broad tapering towards its pointed ends; introitus vaginae and ductus bursae broad; labia very large most frequently unsymmetrical. The colouring of the moths resembles that of the species of the previous group. I place in the discussed group three European species, as well as *E. maroccana* FIL. occurring in the North-Eastern Africa.

#### Eana (Eana) nervana (Joannis, 1908)

[Pl. XXVII, fig. 85, 86, pl. XLIX, fig. 228, pl. LXII, fig. 295, pl. LXIII, fig. 296]

Cnephasia nervana Joannis, 1908, Bull. Soc. Ent. Fr. 1908: 190; Joannis, 1930, Ann. Ent. Fr. 99: 2, pl. 1, fig. 2; Eana nervana Filipjev, 1935, Zschr. Oesterr. Ent. Ver., 21: 206, pl. 20, fig. 4, 7; Cnephasia nervana Razowski, 1956, Z. Wien. Ent. Ges. 41: 206 fig. 5, 6; pl. 20, fig. 3.

F. subnervana Razowski, 1956.

Eana nervana f. subnervana Razowski, 1956. Z. Wien. Ent. Ges. 41: 206, fig. 7 ( $\varphi$  genit.), pl. 20, fig. 4.

Primaries long, broad, expanding outwardly. This is especially apparent in the males. Costal margin slightly arched, termen oblique, alar apex rounded. Ground colour brownish grey with a reddish or faint violet hue. Medial band usually present as a streak darker than the ground, nevertheless there occur also specimens with a distinct band. The remaining components of the pattern more or less distinctly marked. Two dark long specks on the medial band and above the basal one. Fringes concolorous with the ground. Secondaries grey brown, fringes lighter. Forewing about 13 mm. long.

F. subnervana (RAZ.). Light coloured specimens having white yellowish ground and a distinct brownish pattern of the primaries. Basal band very narrow, strongly arched outwardly; medial band in the typical specimens twice interrupted; the spot in the apical area and the second one at the termen distinct. Fringes concolorous with the ground, darkened at the alar apex. Secondaries white yellowish and darkened

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kened along the peripheries and in the apical area. Sometimes the specimens of f. subnervana (RAZ.) resemble the typical form by their light colouring, they differ, however, from them by the quite different shape of the wing. Primaries of about equal width, costal margin gradually arched, alar apex rounded, termen more oblique than in the typical form.

Male genital armature: valva somewhat widened just a little before the apex; sacculus reaching to about half of the length of valva, separate tip short; uncus thin, fairly long, its base broad and large; gnathos of about equal width; transtilla broad, minutely haired; aedeagus long, slightly bent.

Female genitalia: labia very large and broad, unsymmetrical; gonapophyses long; lamella antevaginalis broad, tapering towards its pointed ends; introitus vaginae heavily sclerotized; ductus bursae broad, fairly short; signum short and broad. In the f. subnervana (RAZ.) lamella antevaginalis narrower and its lateral parts more elongated; ductus bursae somewhat longer than that of the typical form.

Distributed in the Iberian Peninsula and South Eastern France. It appears from June up to August. Early stages and food plant uknown.

Examined material:

Spain — 4 spec. from Sn. Ildefonso, 1 spec. from Castilia, Sierra de Gredos, Garganta de las Pozas, 2000 m. August; 4 spec. of f. subnervana (RAZ.) — holotype and 3 paratypes lab. as former (coll. Nat.-hist. Mus., Vienna and author's coll.); 1 spec. from Castilia, Sierra de Gredos, Puerto del Peon 2000 m. July (coll. S. Toll); 1 spec. from Castilia, Laguna de Gredos, 2000 m. July (coll. H. G. AMSEL).

# Eana (Eana) italica (Obraztsov, 1950)

[Pl. XXVII, fig. 87, pl. XLIX, fig. 229, pl. LXIII, fig. 297]

Cnephasia (Eana) italica Obraztsov, 1950, Eos, Madrid 26: 314, fig. 10, 11, 12 (♂ ♀ genit.); Cnephasia canescana Obrhelder, 1951, Veröffentl. Zool. Staatssamml. München 2: 67; Cnephasia maroccana (part.) Razowski, 1956, Z. Wien. Enz. Ges. 41: 206 (err. det.).

Primaries long, fairly broad, expanding outwardly, costal margin more or lees strongly arched, alar apex rounded, termen oblique. Ground colour white, pattern grey brown indistinct.

Basal band from dorsal margin to about half of the wing's width; medial band several times interrupted; a third rather indistinct band in the outer area of the wing; a row of dark dots at termen. The pattern suffused with scattered dark dots and minute transversal stripes; medial band tinged with yellow. Fringes whitish, with a dark striatation at the apex. Secondaries yellowish white, darkened along the peripheries; fringes white. Head, thorax and labial palps white. Forewing 9—12 mm. long.

Male genital armature similar to that of the previous species and yet more to that of *E. maroceana* Fil. from Africa. Valva narrow, sacculus extending beyond half of the width of valva, provided with an extremely short separate tip. Socii broad, gnathos thin, uncus a little longer than in the former species. Aedeagus similar as in the previous species being, however, narrower.

Female genitalia: labia distinctly unsymmetrical, fairly narrow; lamella antevaginalis with elongated and pointed lateral parts; ductus bursae broad behind introitus vaginae, signum small.

The species in question occurs in the mountains of Central Italy, Macedonia and Greece.

Early stages and food plant unknown.

Examined material:

Italy — several spec. from Parco N. Abruzzo, Pascasseroli (coll. A. Fiori and author's coll.); 1 spec. C. Mte Genzano 1500—2000 m. alt. (coll. H. G. Amsel) — Yugoslavia — 3 spec. from Macedonia, Ochrida (coll. H. G. Amsel, and S. Toll).

### Eana (Eana) cottiana (Chrétien, 1898)

[Pl. XXVII, fig. 88, pl. XXVIII, fig. 89, pl. XLIX, fig. 230, pl. LXIII, fig. 298]

Cnephasia cottiana Chrétien, 1898, Naturaliste 1898: 178; Tortrix cottiana Kennel, 1910, Pal. Tortr.: 211, fig. 20, pl. 10, fig. 56; Eana cottiana Filipjev, 1929, : 55, fig. 2.

Ab. buvati (RÉAL, 1953).

Cnephasia (Nephodesme) cottiana f. ind. buvati Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 53.

Subsp. pyrenaca (RÉAL, 1953).

Cnephasia (Nephodesme) cottiana ssp. pyrenaea Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 53.

A big-sized species with broad and long wings. Primaries in the males expanding outwardly, in the females more of equal width. Costal margin more or less arched, termen oblique, alar apex rounded. Ground colour grey to ashy grey, more or less darkened, pattern considerably darker. Basal band arched outwardly, the medial one usually interrupted. A few darkenings in the outer area. Fringes concolorous with the ground. Secondaries grey brown, fairly light, more brownish and darkened along the peripheries and in the apical area. Fringes grey white. There occur sometimes the specimens with contrast coloration with a distinct pattern, or unicoloured dark grey. Forewing about 13 mm. long.

Ab. buvati (Réal). Primaries strongly elongated, medial band interrupted, dark, widened at the dorsal margin.

Ssp. pyrenaea (Réal). Ground colour of the primaries grey whitish. From the Pyrenées.

Male genital armature of a rather different structure than in the former species. Valva strongly narrowed just a little beyond the tip of sacculus; the latter narrow, short, its pointed separate tip ends immediately beyond half the length of valva. Uncus thin, socii large, gnathos thin. Aedeagus arched, of about equal width, provided with a minute dorsal terminal knob.

Female genitalia large, labia and gonapophyses long, lamella antevaginalis broad with pointed lateral parts; introitus vaginae and ductus bursae broad; bursa copulatrix very large, signum broad and fairly short.

This species is distributed in the Pyrenees and mountains of Southern France, as well as in Switzerland. The imagines appear from June up to end of August. Caterpillar feeding on *Ononis* L.

Examined material:

France — several spec. from Hautes Alpes (Las Bassée, Briamon) collected in July and August (coll. Nat.Hist. Mus., Vienna, Mag. Nemz. Muz., Budapest, Übersee Mus., Bremen, H. G. Amsel and S. Toll).

#### GROUP: 3

Group type: Eana derivana (LAH.)

Base of uncus broad and produced; aedeagus smooth, sometimes with a small thorn inside, the terminal thorn situated on the edges of aedeagus always absent; sacculus fairly long with a separate, pointed tip extending beyond the valva; gnathos without the elongated process, sometimes only widened at its corners or in its central part; transtilla broad, helmet-shaped, clothed with minute and rigid hairs. Female genitalia similar as in the members of the previous group having, however, a more heavily and on a greater area sclerotized introitus vaginae. The colouring of moths sometimes very characteristic for the individual species. Geographical distribution wider than that of the species of the former group. The major part of the species present mountainous elements.

## Eana (Eana) penziana (THUNBERG, 1791)

[Pl. XXVIII, fig. 90, 91, 92, 93, 94, pl. L, fig. 231, 232, 233, 234, pl. LI, fig. 235, pl. LXIII, fig. 299, pl. LXIV, fig. 300]

Tortrix penziana Thunberg & Becklin, 1791, Diss. Ent. 2: 43, pl. 5, fig. 1; Nephodesme conspersana Hübner, 1825, Verz. bek. Schmet.: 390; Cnephasia pentziana (nom. emend.) Schawerda, 1929, Z. Oesterr. Ent. Ver. 14: 61; Tortrix penziana Kennel, 1910, Pal. Tortr.: 209, fig. 19, pl. 10, fig. 52; Müller-Rutz, 1929, Mitt. Schweiz. Ent. Ges. 14: 127, pl. 1, fig. 3, 3 a—c, pl. 2, fig. 3, 3 a; Nephodesme penziana Kremky, 1936, Ann. Mus. Zool. Pol. 11: 124, pl. 19, fig. 3, 9, pl. 20, fig. 13; Cnephasia penziana Benander, 1950, Svensk. Insektf.: 47, fig. 6 k, pl. 3, fig. 11; Eana penziana Obraztsov, 1955, Tijdschr. Ent. 98: 283, 284, 303, 306; Obraztsov, 1956, Tijdschr. Ent. 99: 122; Cnephasia (Nephodesme) penziana Razowski, 1957, Acta Zool. Crac. 2: 124, pl. 16, fig. 1, pl. 21, fig. 1, pl. 24, fig. 5.

### Ab. bellana (Curtis, 1826).

Cnephasia penziana ab. bellana Curtis, 1826, Brit. Ent. pl. 100 & expl.; Cnephasia penziana Stephens, 1829, Syst. Cat. Brit. Ins. 2: 180, no. 6992; Sciaphila diurneana Guenée, 1845, Ann. Soc. Ent. Fr. ser. 2, 3: 166; Cnephasia (Syndemis) octomaculana (part.) Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 66; Cnephasia (Nephodesme) penziana var. clarana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 55; Tortrix bellana

Kennel, 1910, Pal. Tortr. pl. 10, fig. 53; Nephodesme bellana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 13, pl. 5.

Ab. alpestris (Réal, 1953).

 $Cnephasia,\ Nephodesme\ penziana$ "race" alpestris Réal, 1953, Bull. Mens. Soc. Linn. Lyon ${\bf 22}\colon 55.$ 

Ab. livonica (RÉAL, 1953).

Cnephasia, Nephodesme penziana f. ind. livonica Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56; Tortrix colquhouana (part.) Kennel, 1910, Pal. Tortr., pl. 10, fig. 51.

? Subsp. colquhouana Doubleday, 1850.

Penziana ssp. colquhouana Doubleday, 1850, Synon. List Brit. Lep.: 23, non. binom.; Sciaphila colquhouana Barret, 1884, Ent. Mon. Mag. 20: 237, 244; Nephodesme penziana ssp. Sovinskij, 1937, Trav. Mus. Zool. 19: 26; Tortrix colquhouana Kennel, 1910, Pal. Tortr.: 209, pl. 10, fig. 50; Nephodesme colquhouana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 13, pl. 5; Cnephasia Nephodesme colcuouhana (err.) Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56.

A big-sized, light coloured species. Primaries expanding outwardly, costal margin slightly arched, termen fairly oblique, alar apex slightly rounded. Ground colour white to white grey. Pattern grey blackish to black, sometimes very distinct and sharply marked. Basal band from dorsal margin usually beyond half of the wing's width. Medial band frequently twice interrupted. Often a darkening forming a band from the apical spot towards the dorsal margin. Sometimes the ground sprinkled with minute transversal stripes occurring especially in the costal portion of the wing. Fringes whitish. Secondaries grey whitish or grey brown, fringes pale. Forewing 9—14 mm. long.

Ab. bellana (Curt.). Primaries light coloured, pattern in majority indistinct, darkened at places. Basal band distinct, medial band narrowest at the end of medial cell.

Ab. alpestris (Réal). Ground of the primaries light grey white without a darker powdering. A form occurring in the high altitudes in the Alps.

Ab. livonica (Réal). Dark coloured specimens from Pyrenées. Ground colour of the primaries grey, powdered with darker. Primaries broader than in the typical form.

F. amseli f. n. Primaries distinctly expanding outwardly, costal margin slightly arched, termen strongly oblique. Ground

colour pure white with a faint yellow hue. Pattern very distinct, brown black. Basal band narrow, the medial one twice narrowed. The spots in the outer area of the wing small not amalgamated with each other. The genitalia will be described later.

? Subsp. colquhouana (BARRET). Smaller than the typical form. Primaries narrower and the ground colour darker grey, more or less darkened, sometimes lightened only at the costal margin. Pattern fairly distinct, dark. Fringes almost concolorous with the ground. Secondaries darker than in the typical form. Genitalia somewhat differing from those of the typical specimens.

Subsp. fiorana subsp. n. Primaries very narrow and long, costal margin nearly straight except at the alar base, termen oblique. Ground colour of the primaries and secondaries white, with a metallic lustre. Pattern yellowish grey very indistinct, fringes white. Labial palps, head and thorax white. From Abruzzo. The holotype (male) is labelled: "Abruzzo, Mte Portella, 2 VIII 1924, A. FIORI". Beside this specimen, several other ones appear in the coll. of A. FIORI. The genitalia will be described later.

Male genital armature of the typical form: the length of the aedeagus and sacculus variable; aedeagus may be deformed in the preparation. The shape of socii constant; they are curved and tapering. Uncus rather short, its base broad. Aedeagus broad. Sacculus usually narrow and bent. In the one of the specimens which I have examined, the aedeagus longer than in the typical form and sacculus considerably widened before its tip. In the ssp. colguhouana (BARRET) the genitalia very similar to those in the typical form having, however, considerably narrower aedeagus. In the f. amseli f. n. genitalia very finely built, valva narrow, sacculus thin and narrow with a big, pointed separate tip, uncus thin; aedeagus similar as in ssp. colquhouana (BARRET) being, however, narrower and conspicuously shorter than in that form. In the ssp. fiorana ssp. n. genitalia massive, valva broad and curved, sacculus thick with a very short separate tip, aedeagus broad, similar to that of the typical form, uncus and socii broad. Holotype: male. Praep. Nr. T.: 1013.

Female genitalia: in the typical form labia broad, gonapophyses posteriores long, gonapophyses anteriores shorter, lamella subgenitalis broad, lamella antevaginalis with elongated and pointed lateral parts, introitus vaginae broad. In the ssp. colquhouana (BARRET) signum narrower than in the typical form, the remaining differences as shown in pl. LXIV. The females of f. amseli f. n. and ssp. fiorana ssp. n. are hitherto unknown.

Geographical distribution: typical form — Central, Southern and Northern Europe, Hebrides, Balkans, Asia Minor, Siberia — ssp. colquhouana (BARRET) — Great Britain, ? Northern Ukraine, (?) Eastern Russia — ssp. fiorana ssp. n. — Italy (Abruzzo).

The imagines appear from June up to August. Caterpillar feeds in May and June on *Graminae*. The specimens of ssp. colqubouana (BARRET) were obtained from the roots of Scilla maritima.

Examined material:

Great Britain — 3 spec. "Gotia, DBLD.", "colq. DBL.", "Unst. 1895, I. I. F. X. King" (coll. Zool. Mus. Humb. Univ., Berlin); 1 spec. "Isl. Man, 26 VI 1895" — f. colquhouana (BARRET); 1 spec. "Bequest, Brit. Mus. R. Adkin" (coll. H. G. Amsel). — Austria — holotype of f. amseli f. n.: "Weidbruck, Südtirol, Dr. Schawerda" (coll. H. G. Amsel), 2 spec. from Carinthia (coll. I. Z. P. A. S., Warszawa) — Switzerland — 3 spec. from Engadin (coll. I. Z. P. A. S., Warszawa) — Italy — 1 spec. from Trafoi (coll. I. Z. P. A. S., Warszawa); several spec. from Piemonte (coll. A. Fiori and author's coll.). — Poland — several spec. from Tatry Mts. ca 2000 m. alt. and from Pieniny Mts. (author's coll.).

## Eana (Eana) viridescens REBEL

[Pl. XXVIII, fig. 95, pl. LI, fig. 236]

Unfortunatelly I do not know the original description of this species. It may be possible, that it was described only "in litteris".

This species comes very near *Eana penziana* (Thnbg.) by its external character, it is, however, smaller than that species. Primaries narrower than in *E. penziana* (Thnbg.), costal margin slightly arched, alar apex rounded, termen very

strongly oblique. Ground colour whitish with a grey hue at the dorsal margin. Pattern black with a very faint greenish hue. The base of the wing and its outer area sprinkled minutely with transversal stripes lighter than the pattern. Pattern interrupted at places; basal band narrow; the medial one reduced to few spots isolated from each other; several dark specks above the medial band at the costa. Fringes white with a distinct dark striatation. Secondaries light grey brown, considerably darker along the peripheries. Fringes white. Labial palps and head white. Thorax white and brownish above. The under surface of the primaries brownish, costa yellowish and darkly stripped, fringes light. Secondaries lighter than the primaries.

Male genital armature similar to that of the previous species, being, however, smaller. Valva narrow; sacculus narrow and long, extending beyond half the length of valva; aedeagus long, widened terminally; uncus nad gnathos in the only preparation which I have examined has been lost. Female unknown.

The species is reported from Caucasus. It appears in August.

I have examined only one male specimen labelled: "viridescens RBL., paratypus. N. Kaukas fl. Zeja, Alp. reg. 8 VIII 1931, ex coll. RJABOV, G. U.: 3073" (coll. H. G. AMSEL).

## Eana (Eana) incanana (STEPHENS, 1852)

[Pl. XXVIII, fig. 96, pl. XXIX, fig. 97, pl. LI, fig. 237, pl. LXIV, fig. 301]

? Cnephasia cinerana Westwood & Humphreys, 1845, Brit. Moths 2: 143, pl. 88, fig. 16; Cnephasia Syndemis sinuana (part.) Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 65; Cnephasia incanana Stephens, 1852, List. Spec. Brit. Anim. B. M. 10: 101; Sciaphila passivana (part.) Wocke, 1871, Stgr.-Wck. Cat.: 241, no. 783; Tortrix sinuana Kennel, 1910, Pal. Tortr.: 203; Tortrix pasivana Kennel, 1910, Pal. Tortr. pl. 10, fig. 39; Nephodesme incanana Pierce & Metcalfe, 1922, Genit. Tortr. Brit. Isl.: 13, pl. 5; Kremky, 1935, Ann. Mus. Zool. Pol. 11: 120, pl. 19, fig. 1, 5, 7, pl. 20, fig. 11; Eana incanana Obraztsov, 1956, Tijdschr. Ent. 99: 121; Bradley & Martin, 1956, Ent. Gaz. 7, pl. 6; Cnephasia (Nephodesme) incanana Razowski, 1957, Acta Zool. Crac. 1: 123, pl. 15, fig. 4, pl. 20, fig. 6, pl. 24, fig. 3.

Ab. infuscata (RÉAL, 1953).

Cnephasia (Nephodesme) incanana ssp. infuscata Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 54.

Costal margin of the primaries arched, alar apex rounded, termen oblique. Ground colour grey to grey brownish, more or less darkened, glossy. Pattern more brownish almost concolorous with the ground or darker. Basal band is usually the most distinct component of the pattern, sometimes dark brown or even dark grey, broad at the costa, somewhat narrower below, isolated from the dorsal margin. Medial band edged more distinctly inwardly than outwardly, sometimes concolorous with the ground. Outer spot not always well visible. Fringes rather concolorous with the ground. Secondaries grey brown, fringes paler. Size and colour variable. Forewing 7—9 mm. long.

Ab. infuscata (Réal). Dark specimens, ground colour of the primaries brownish. Described from Alsacia as a subspecies.

Male genital armature very characteristic. Uncus short, pressed into its extending basal parts; socii fairly big; gnathos with widened corners; valva elongated, apex rounded; sacculus with a short separate tip; aedeagus bent, acuminate.

Female genitalia big, labia broad; lamella antevaginalis fairly narrow with pointed lateral parts; introitus vaginae heavily sclerotized; ductus bursae of equal sclerotization, tapering; signum very long; gonapophyses posteriores longer than the anteriores.

Geographical distribution: Great Britain, France, Central and Northern Europe, Ukraine, Balkans. Imagines appear from May up to August. Caterpillar feeds in May on *Vaccinium L., Scilla L.* and others.

Examined material:

Great Britain — I spec. from Scotland (coll. Zool. Mus. Humb. Univ., Berlin); I spec. from Doneaster (coll. H. G. Amsel). — Switzerland — 4 spec. from Zürich (coll. S. Toll and author's coll.) — Germany — I spec. from Berlin, Rüdersdorf (coll. H. G. Amsel) — Poland — many spec. from Pieniny Mts., Ustroń (Silesia), Zawiercie, Jamy distr. Grudziądz (coll. I. Z. P. A. S., Warszawa, S. Toll and author's coll.) — USSR — several spec. from Western Podolia: Krzywcze, Ścianka Hłody, Wołczków, Ubieżowa (coll. S. Toll).

## Eana (Eana) nevadensis (Rebel, 1928)

[Pl. XXIX, fig. 98, 99, 100, 101, pl. LI, fig. 238, pl. LXIV, fig. 302]

Cnephasia nevadensis Rebel, 1928, Z. Oesterr. Ent. Ver. 14: 50; Eana nervana Obraztsov, (non Joannis) 1956, Tijdschr. Ent. 99: 123; Obraztsov, 1957, Tijdschr. Ent. 100: 326.

This species has been synonimized by Obraztsov (1956) with Eana nervana (Joann.) it belongs, however, to quite a different group of species distinct by the genitalia. It resembles much Eana incanana (Steph.). There are three specimens of the species in question in the Naturhistorisches Museum in Vienna. They are labelled "Type". The specimen labelled "Type 3, Sierra Nevada, 1500—2000 m., VII, Bubac (ek)" I designate as the lectotype.

Primaries long, expanding outwardly, costal margin in the females more arched than in the males, termen oblique. Ground colour grey, grey white, more or less darkened, pattern darker than the ground grey blackish or grey brown. A small rusty spot in the centre of medial band. Fringes concolorous with the ground. Secondaries grey white, darkened along the peripheries, fringes somewhat lighter. One of the specimens examined by me is uniformly steely grey. It was determined as *Eana osseana* (Scop.). Forewing about 12 mm. long.

Male genital armature of a similar structure as in *E. inca-nana* (Steph.). Aedeagus long, strongly produced basally. Female genitalia as shown in pl. LXIV, fig. 302.

Examined material:

Spain — "Type 3, Sierra Nevada, 1500—2000 m, VII, Bubac[ek], "Type B.  $\mathfrak{P}$ " and 2 spec. "S. Vevada Pt. del Lobo 2100 m., 15 VII 1930 and 20 VII 1927, leg. Reisser" (coll. Nat.-hist. Mus., Vienna).

## Eana (Eana) joannisi (Schawerda, 1929)

[Pl. XXIX, fig. 102, pl. LII, fig. 239, pl. LXIV, fig. 303]

Cnephasia wahlbomiana & cupressivorana (err. det) Schawerda, 1927, Verh. Zool.-bot. Ges., Wien, 76 (1926): 23; Cnephasia joannisi Schawerda, 1929, Z. Oesterr. Ent. Ver. 14: 60, pl. 1, fig. 1, 2; Cnephasia (Nephodesme) joannisi Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 53.

? ssp. dumonti (Réal, 1953).

Cnephasia (Nephodesme) joannisi ssp. dumonti Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 53.

ab. evisa (Schawerda, 1929).

Cnephasia joannisi ab. evisa Schawerda, 1929, Z. Oesterr. Ent. Ver. 14: 61, fig. 3.

Colour very variable. Primaries slender, costal margin arched slightly in the males and more in the females; alar apex rounded, termen oblique. Ground colour grey, cinereous or whitish, sometimes with a very faint yellowish or rosy hue. Ground unicolorous or transversally stripped. Basal band fairly broad, extending only beyond half of the wing's width. Medial band distinct at the costal margin, interrupted beyond half of the wing's width. Frequently a spot in the outer area at the costa a second one at the termen. Fringes concolorous with the ground or a little paler than it, with a dark striatation. Secondaries light coloured, transparent grey white, somewhat darkened along the peripheries. Fringes concolorous with the basal area of the wing. Forewing about 9 mm. long.

Ab. evisa (Schaw.). A form considerably darker than the typical one.

Ssp. dumonti (Réal). Pattern of the primaries more distinct and ochreous than in the typical form.

Male genital armature similar as in the next species. Valva broad, sacculus acuminate; uncus long and thin; gnathos narrow; socii large; aedeagus broad basally, further on gradually tapering, acuminate.

Female genitalia resemble those of the previous species. Labia broad; lamella antevaginalis narrow, its lateral parts long and pointed; introitus vaginae heavily sclerotized, narrower than in the former species; ductus bursae shorter and gonapophyses longer than in the former species. The genitalia in the ssp. dumonti (Réal) very similar to those in the typical form judging from the figure given by Réal. According to that figure, lamella antevaginalis in ssp. dumonti (Réal) broader than in the typical form.

The typical form is known from Corsica while ssp. dumonti (RÉAL) occurs in Southern France (Ardèche, Basses Alpes). Early stages and food plant unknown.

Examined material:

Corsica — several spec. (paratypes) from Monte Ceopo 1400 m. alt., VII, Col de Bavella, 1300 m. alt., VII, Monto d'Oro, VII, Col. de Vergio 1400 m., VII (coll. Nat.-hist. Mus., Vienna; Übersee Mus., Bremen; H. G. Amsel and S. Toll).

## Eana (Eana) derivana (LAHARPE, 1858)

[Pl. XXIX, fig. 103, 104, pl. LII, fig. 240, pl. LXV, fig. 304]

Sciaphila derivana Laharpe, 1858, Faune Suisse 6: 55; Sciaphila paraliana Zeller, 1872, Stett. Ent. Ztg. 33: 103; Tortrix virgaureana Diószeghy, 1930, Verh. & Mitt. Siebenb. Ver. Nat. 79/80: 91; Nephodesme derivana Kremky, 1935, Ann. Mus. Zool. Pol. 11: 122, pl. 19, fig. 2, 6, 8, pl. 20, fig. 12; Cnephasia (Nephodesme) paraliana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 54; Eana derivana Obraztsov, 1956, Tijdschr. Ent. 99: 122; Cnephasia Nephodesme derivana Razowski, 1957, Acta Zool. Crac. 1: 124, pl. 16, fig. 1, pl. 21, fig. 3, pl. 24, fig. 4.

Colouring variable, sometimes very light. Primaries narrower than in the previous species, costal margin less arched, termen slightly oblique. Ground colour grey brown, grey to grey whitish. Pattern sometimes very distinct, grey brown to black. Basal band broad, interrupted in the half of the wing's width. Medial band usually broad with a rusty speck at the end of medial cell. Several minute specks at the costa above the medial band. A darkening at the termen. Fringes concolorous with the ground. Secondaries grey brown. Forewing about 7 mm. long.

Male genital armature very similar to those in the former species, but uncus considerably longer and less pressed in its base, aedeagus bearing a triangular thorn, valva narrowed beyond the tip of sacculus, gnathos without the lateral widenings.

Female genitalia very easily distinguished from those of *E. incanana* (Steph.). Introitus vaginae heavily sclerotized at lamella antevaginalis, as well as at ductus bursae. Lamella antevaginalis with narrow, long lateral parts; lamella subgenitalis broad; labia elongated; gonapophyses short; ductus bursae somewhat shorter than in the previous species; signum thin.

The species occurs in Central Europe, Balkans and probably in France and Spain. I have examined from Valesia several doubtful specimens being somewhat distinct externally from the typical form. Genitalia rather similar to those of the typical form.

Imagines appear in June and July. Early stages and food plant unknown.

Examined material:

Austria — 1 spec. from Lunz (coll. Übersee Mus., Bremen); 1 spec. from the Alps (coll. I. Z. P. A. S., Warszawa) — Germany — 1 spec. "paraliana Led. Prussia" (coll. Zool. Mus. Humb. Univ., Berlin) — Poland — many spec. from Pieniny Mts., Zawiercie (coll. I. Z. P. A. S., Warszawa, S. Toll, R. Żukowski and author's coll.).

## Eana (Eana) incognitana sp. n. ?

[Pl. XXX, fig. 105, pl. LXV, fig. 305]

A species similar to the previous one by its external appearance having, however, broader primaries and more arched costal margin of those. Alar apex of the forewing rounded, termen oblique and slightly convex. Ground colour ashy, dusked with darker more steely and transversally stripped at the dorsal margin. Pattern distinct; basal band broad, brown grey, lightened gradually towards the dorsal margin; medial band broad, with almost straight edges, the only minute projection in half of the dorsal margin. A third rather narrow band formed by an outer spot and a second one situated at the termen. Fringes concolorous with the ground. Secondaries grey brown, considerably darkened along the peripheries. Fringes concolorous with the basal area of the wing. Head and thorax above concolorous with the ground of primaries. Forewing about 9 mm. long.

Female genitalia similar as in the former species being, however, conspicuously smaller and having distinctly longer gonapophyses posteriores, broader and shorter lateral parts of lamella antevaginalis, long and thin ductus bursae, long signum, rather straight proximal edge of lamella subgenitalis and broad and less sclerotized introitus vaginae.

Holotype: "Engadin, F. 7 1870" (coll. I. Z. P. A. S., Warszawa).

## Eana (Eana) jäckhi sp. n. ♀

[Pl. XXX, fig. 106, pl. LXV, fig. 306]

A big-sized species. Primaries of about equal width, costal margin arched, alar apex distinctly rounded, termen convex and oblique. Ground unicolorous grey brown. Basal area darkened, basal band slightly visible. Medial band twice narrowed, outer spot indistinct. An indistinct dark cloud at the costa. Fringes somewhat lighter than the ground. Secondaries whitish yellowish distally and more brown along the peripheries, fringes light. Forewing about 10 mm. long.

Female genitalia big, labia broad, bursa copulatrix large, signum long. Gonapophyses especially posteriores long, proximal edge of lamella subgenitalis concave. Lateral parts of lamella antevaginalis very long and narrow. Introitus vaginae fairly broad, heavily sclerotized at lamella, further on considerably more weakly sclerotized. Ductus bursae tapering gradually into bursa copulatioix behind its heavily sclerotized part. Ductus bursae conspicouously shorter than bursa copulatrix.

This species is described from the only female specimen (holotypus) wrongly determined as "E. clercana". It is labelled "Ecully, 28 VI 1908" (coll. Übersee Mus., Bremen).

## Eana (Eana) rundiapicana sp. n. 9

[Pl. XXX, fig. 107, pl. LXV, fig. 307]

A species very similar to the previous one, however, distinct from it. Primaries of about equal width, costal margin more equally arcuate, alar apex very distinctly rounded and produced, termen more convex, less oblique. Ground colour more grey, basal band slightly visible, medial band distinct, twice concave at its inner edge. Outer area light, only a small cloud in the place of the outer spot and several blackish dots among distinctly marked venation. Secondaries broad, white brownish, somewhat darkened along the peripheries, fringes somewhat lighter. Forewing 11 mm. long.

Female genitalia somewhat resembling those of the previous species. Labia broader, assymetrical, gonapophyses long and thin. Lamella antevaginalis considerably broader, its lateral parts shorter. Introitus vaginae considerably broader in ist

heavily sclerotized part. Behind the latter introitus vaginae strongly tapering into ductus bursae. Signum long.

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This species is described from the only female specimen (holotype) labelled "Bomich, 3 VII [18]94, Praep. Nr. T.: 138" (coll. I. Z. P. A. S., Warszawa).

# Eana (Eana) herzegovinae sp. n. ?

[Pl. XXX, fig. 108, pl. LXV, fig. 308]

This species comes near *E. derivana* (Lah.) by its external appearance, but its primaries are broader, and the rusty speck in the medial band absent. Costal margin of the forewing arched, especially at the alar base, alar apex delicately rounded, termen oblique. Ground colour grey, darkened and transversally stripped with darker at dorsum. Basal band broad and distinct, extending just a little behind half of the wing's width. Medial band more distinct at the costa than at the dorsum. A small dark cloud in the outer area. The transversal stripes connected into a line almost parallel to the medial band. Fringes concolorous with the ground. Secondaries grey brown, darkened in the apical area and along the peripheries. Fringes somewhat paler than the ground. Forewing about 9 mm. long.

Female genitalia distinct from those of *E. derivana* (Lah.) by the conspicuously longer gonapophyses posteriores and from *E. cyanescana* (Réal) by longer lateral parts of lamella antevaginalis, longer signum, less sclerotized and broader introitus vaginae and broader, somewhat longer ductus bursae. Lamella subgenitalis deeply concave proximally.

The only female specimen (holotype) of this species is labelled "Bišina, Herz., 28 VI, Schawerda" (coll. Übersee Mus., Bremen).

## Eana (Eana) cyanescana (RÉAL, 1953)

[Pl. XXX, fig. 109, 110, pl. LII, fig. 241, pl. LXVI, fig. 309]

Cnephasia, Nephodesme cyanescana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 54, fig. 8, 9 (♂♀ genit.).

After examining the male holotype and female paratype of this species I stated that they seem to be not conspecific because of such a strong sexual dimorphism which does not

occur in the discussed group. I give the characteristics of these specimens: male — primaries narrow, slightly expanding outwardly, costal margin equally arched, termen strongly oblique; ground colour rather white grey, transversally stripped with darker; basal band reduced and transformed into a smeared streak at the dorsal margin; medial band of about equal width; pattern grey brown; a yellowish spot in the medial band; secondaries light grey brown, fringes lighter. Female — primaries considerably broader than in the male, costal margin more arched, nearly straight beyond half of its length; ground colour grey; pattern distinct, grey black; basal band broad, arched outwardly; dark transversal stripes in the outer area of the wing and in its margins; fringes concolorous with the ground; secondaries darker than in the male; forewing about 9 mm. long.

Genital armature: in the male valva broad; sacculus thin and acuminate; uncus fairly long; aedeagus broad, arched and acuminate. In the female genitalia gonapophyses posteriores conspicuously longer than the anteriores; lamella subgenitalis concave dorsally; lamella antevaginalis small, similar to that of *E. derivana* (LAH.) having, however, considerably shorter and thinner lateral parts; introitus vaginae more heavily sclerotized and broader than the ductus bursae, the latter narrow, fairly long; signum very narrow.

The species is recorded from Southern France ("Alpes méridionales") in June and July.

Early stages and foodplant unknown.

Examined material:

Holotype: "C. cyanescana RÉAL, H-Type 3, Valdeblore, 30 VI 1916, Museum, coll. Dumont, Prép. RÉAL. 334"; one paratype: "\$\varphi\$ Abriès, 1-15 VIII 76, Hautes Alpes, coll. D. J." (coll. Mus. Hist. Nat., Paris).

## Eana (Eana) clercana (JOANNIS, 1908)

[Pl. XXX, fig. 111, pl. LII, fig. 242, pl. LXVI, fig. 310]

Cnephasia clercana Joannis, 1908, Bull. Soc. Ent. Fr. 1908: 192; Joannis, 1930, Ann. Soc. Ent. Fr. 49: 2, pl. 1, fig. 1.

A big-sized species, coming near *E. nervana* (Joan.) by its external appearance. Primaries elongated, a little expanding

outwardly, in the females more equally wide. Costal margin equally arched, termen strongly oblique. Ground colour grey rusty or grey brown, pattern more brown. Basal band oblique, reduced beyond half of wing's width; medial band twice narrowed, inner border more distinctly marked than the outer one. A dark cloud in the outer area. Outer spot less visible. Fringes lighter than the ground. Secondaries grey brown, fringes lighter. Forewing about 12 mm. long.

Male genital armature: valva tapering outwardly, sacculus thin; aedeagus fairly long, tapering towards the apex; uncus thin, socii broad.

Female genitalia: labia broad; gonapophyses long; introitus vaginae broad, strongly sclerotized; ductus bursae broad; signum big.

Reported from Southern France (Lyon, Basses Alpes, Pyrenees mer.) and Spain in June, July and August.

Early stages and food plant unknown.

Examined material:

France — holotype: "Ecully 1905, H-Type, Museum Paris, 36, Prép. P. Réal" (coll. Mus. Hist. Nat., Paris) — Spain — 1 spec. "S. Gredos, Hoyos D. Esp. Cast. 1400 m., 19 VII 1936, coll. H. Reisser, Wien" (coll. Übersee Mus. Bremen); 1 spec. "Hisp. Castilia Gredostal, 1600 m., 9 VII 1936, leg. H. DÜRCK".

## Eana (Eana) legrandi (RÉAL, 1953)

[Pl. LXVI, fig. 311]

Cnephasia (Nephodesme) legrandi Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 53, fig. 3, 4 (3  $\,$  genit.).

I have had no opportunity to examine the types of this species and I give the original description of its external character: "Décoration intermediaire entre C. derivana and C. incanana: la première fascie froit, régulière, étroite finement sertie, arrêtée au pli, écailement fin chez mâle; femele plus dificile à distinguer, plus proche de C. derivana". In the consequence of a great similarity between the male genital armature of the species discussed and E. joannisi ssp. dumonti (RÉAL) it is rather difficult to confirm the features distinguishing both

species. Judging from the figures given by Réal, in E. legrandi (Réal) sacculus somewhat more curved, transtilla a little broader than in E. joannisi ssp. dumonti (Real). In the female genitalia gonapophyses posteriores as short as in E. derivana (Lah.), but introitus vaginae not broadened at ductus bursae and probably not so strongly sclerotized as in the latter species.

This species occurs in Southern France (Basses Alpes) in June.

Early stages unknown.

## Eana (Eana) viardi (RÉAL, 1953)

[Pl. XXX, fig. 112, pl. LIII, fig. 243, pl. LXVI, fig. 312]

Cnephasia (Nephodesme) viardi RÉAL, 1953, Bull. Mens. Soc. Linn. Lyon 22: 54, fig. 8, 9 (♂ ♀ genit.); Eana viardi Obraztsov, 1956, Tijdschr. Ent. 99: 122.

Réal writes: "Aspect extérieur très voisin de C. derivana". I have obtained for my study one male specimen from the Zoological Museum of the Humboldt University in Berlin collected in Valesia (Spain), genital armature of which shows a great similarity with the figure given by Réal for the species in question. The colour of this specimen differs from that (LAH.). Primaries somewhat expanding derivana outwardly, costal margin arched, termen oblique. Ground colour white cinereous, pattern brown grey. Basal band sharply marked, being, however, rather indistinct beyond half its length. Medial band broad, inner border more distinct than the outer one. A dark transversal stripping in the outer area. Fringes concolorous with the ground. Secondaries light grey brown, more brown in the apical area. Fringes light. Forewing about 10 mm. long. In the genital armature valva long, sacculus thin, strongly curved, its separate tip fairly long and acuminate. Aedeagus arched, narrow, provided with a rather small thorn. Uncus thin.

In the female genitalia, judging from the figure given by Réal, gonapophyses long; proximal edge of lamella subgenitalis fairly concave; lamella antevaginalis broad, its lateral

parts strongly tapering apically; introitus vaginae broad, probably of a similar structure as in E. derivana (Lah.).

The species is recorded in Southern France (Basses Alpes) in June.

Early staged unknown.

## ? Eana (Eana) rastrata (MEYRICK, 1910)

Cnephasia rastrata Meyrick, 1910, Ent. Mo. Mag. 46: 211; Eana rastrata Obraztsov, 1956, Tijdschr. Ent. 99: 122.

I give only the original description of this species. The type seems to be in the collection of the British Museum (Natural History) in London.

"♂♀, 26—31 mm. Head and palpi fuscous, irrorated white, palpi  $2^{1}/_{2}$ . Antennae fuscous, ciliation  $1/_{2}$ . Thorax white, more or less sprinkled with fuscous or dark fuscous, with moderate posterior crest. Abdomen pale whitish fuscous. Fore-wings elongate, posteriorly moderately dilated, costa gently arched, apex obtuse, termen somewhat rounded, rather strongly oblique; 7 to apex, fuscous, suffuselly irrorated with whitish, with scattered black scales, sometimes strigulae; basal patch suffused with brownish towards costa, outer edge formed by a narrow brownish fascia mixed with black reaching from costa twothirds across wing, acutely angulated in middle of disc its angle produced posteriorly into a more or less developed oblong projection; central fascia narrow brownish, irregularly sprinkled with black, running from two-fifth of costa two-thirds across wing, acutely angulated in middle of disc; costal patch fuscous, flattened-triangular, or more usually resolved into a cloudy elongated subcostal streak connected with costa by three small spots or bars; towards termen about eight scattered strigulae of black irroration suffused with brown, cilia light brownish sprinkled with whitish. Hind-wings with veins 6 and 7 connatre or short stalked; pale grey faintly darker-strigulate. whitish towards base and anterior two-thirds of costa; cilia whitish, with faint grey sub-basal line. Hab.: Saa-Tée, 6000-7000 feet in August.

### Genus: Doloploca HÜBNER, 1825

Typus generis: Phalaena punctulana Schiffermüller & Denis, 1776

Phalaena (part.) Schiffermüller & Denis, Syst. Verz. Sch. Wien. Geg.: 130.

Pyralis (part.) Fabricius, 1787, Mant. Ins. 2: 234.

Tortrix (part.) Charpentier, 1821, Zinsler, Wickler: 76.

Eutrachia (part.) HÜBNER, 1822, Syst.-alph. Verz.: 77.

Doloploca HÜBNER, 1825, Verz. bek. Schm.: 387.

Lemmatophila (part.) TREITSCHKE, 1832, Schm. Eur. 9/1: 25.

Epigraphia Duponchel (non Stephens), 1843, Hist. Nat. Lép. Fr. Suppl. 4: 240.

Tortricodes (part.) Guenée, 1845, Ann. Soc. Ent. Fr. ser. 2, 3: 305. Cheimatophila Erschoff (non Stephens), 1877, Horae Soc. Ent. Ross. 12 (1876): 341.

Cnephasia (part.) Rebel, 1901, Stgr.-Reb. Cat. 2: 260.

Antennae haired, in the females the hairs weaker than in the males. Labial palps upturned somewhat. Basal joint short triangular, medial joint elongated, almost equally wide, the apical one minute, in the females strongly reduced. Proboscium rather strongly atrophied. Primaries broad, somewhat expanding outwardly, alar apex somewhat produced. Costal margin arcuate, termen oblique, alar apex rounded. Venation: in the primaries all veins running separately, distant from each other at medial cell.  $R_1$ ,  $r_2$  and  $r_3$  about equally distant from each other at medial cell. The abscissas  $r_1-r_2$ , and  $r_2-r_3$ considerably greater than  $r_3-r_4$  and  $r_4-r_5$ .  $R_5$  touching costa just, a little behind the alar apex.  $M_3$  more remote from  $cu_1$ than from  $m_2$ . Two inner veins in the medial cell, one of them rather atrophied. In the secondaries some veins have a tendency to fuse. Sc running rather near the costa. Rr and  $m_1$ from medial cell near each other, in their further course dispersing and surrounding alar apex.  $M_2$  and  $m_3$  about parallel to each other.  $M_3$  and  $cu_1$  depart near each other, from one point or stalked. Cu<sub>2</sub> from two thirds of inner edge of medial cell. Male genital armature: tegumen wide; uncus thin with lateral swellings at the base; valva broad basally, further on narrowed; sacculus massive; socii broad; gnathos thin; aedeagus without cornuti; transtilla broad clothed with minute thornlike bristles dorsally. Female genitalia: labia typical for Cnephasiinae, broad, clothed with two kind of hairs; lamella antevaginalis with a broad ostium bursae; introitus vaginae heavily sclerotized, broad; ductus bursae short; bursa copulatrix elongated, signum consisting of minute spines.

The genus discussed comprises doubtlessly two species, one of them occurring in Europe, and the second known from Asia. Besides, there are four species (one (European among them) of a doubtfull systematical position.

Caterpillar feeds probably on the bush plants. Imagines appear in Spring. Pupa probably hibernates.

## Doloploca punctulana (Schiffermüller & Denis, 1776) [Pl. XXXI, fig. 113, 114, pl. LIII, fig. 244, pl. LXVII, fig. 313]

Phalaena Tortrix punctulana Schiffermüller & Denis, 1776, Syst; Verz. Sch. Wien. Geg.: 130; Phalaena Tinea schlemmerella Hübner, 1793. Samml. auserles. Vög. Schm.: 6, pl. 12; Lemmatophila punctulana Treitschke, 1832, Schm. Eur. 9/1: 38; Doloploca puntulana Kennel, 1910, Pal. Tortr.: 221, pl. 11, fig. 11; Meyrick, 1913, Lep. Het. Tortr. Gen. Ins. 149: 43, pl. 4, fig. 51; Obraztsov, 1955, Tijdschr. Ent. 98, fig. 286, 297, 307—309; Obraztsov, 1956, Tijdschr. Ent. 99: 124; Razowski, 1957, Acta Zool. Crac. 1: 119, pl. 14, fig. 2, pl. 19, fig. 4, pl. 23, fig. 2.

Primaries broad, expanding outwardly, costal margin more or less arcuate, termen oblique, alar apex rounded. Ground colour light white brownish or brownish yellow lightened at places. The ground presents several spots, the remaining wing's surface darkened with grey brown. Basal area in the form of a light spot with convex outer margin. Sometimes this spot strongly elongated, produced outwardly and connected with the medial spot. The latter, above the apex of medial cell, frequently produced towards the alar apex. An elongate light spot at the termen. The ground sprinkled with scattered black dots forming sometimes lines. Fringes light. Secondaries grey brown, more or less darkened, in the basal area darker than along the peripheries. Fringes somewhat lighter. Forewing up to 13 mm. long.

Male genital armature: valva strongly tapering outwardly; sacculus fairly thin, curved; socii big, broad, gnathos thin; tegumen, uncus and transtilla typical for the genus discussed; aedeagus rather narrow.

Female genitalia: labia typical; gonapophyses rather short; lamella antevaginalis narrow; ostium bursae broad; introitus vaginae and ductus bursae typical; signum rather small.

Geographical distribution: Central Europe, France, Ukraine, Eastern Russia. Imagines appear in April and May.

Caterpillar olive green, a subdorsal line and broader than it dorsal one thin, darker than the ground. Head brownish red, thoracic plate yellow green spotted with black. It feeds in June and July on *Lonicera L.*, *Berberis vulgaris L.*, *Ligustrum L.* and other bushes.

Examined material:

Germany — 2 spec. from Palatinat, 2 spec. from Badenia (coll. I. Z. P. A. S., Warszawa); 1 spec. from Reinphalz (coll. Zool. Mus. Humb. Univ., Berlin) — Austria — 1 spec. from Vienna (coll. Zool. Mus. Humb. Univ., Berlin) — Hungary — 1 spec. "Ofen" (coll. Zool. Mus. Humb. Univ., Berlin).

### ? Doloploca schawerdai REBEL, 1936

Doloploca schawerdai Rebel, 1936, Dtsch. Ent. Zeit. Iris 50: 93.

I have had no opportunity to examine the specimens of this species. Its systematical position is rather doubtful. I quote the original description: "Ein einzelnes, ganz frisches männliches Stück mit der Bezeichnung "Sard. Aritzo. 12 VI 34, PREDOTA" lässt die Zugehörigkeit zur Gattung Doloploca HB. sofort durch die weitgehende Ueberingstimmung in Färbung und erhabener schwarzer punktzeichnung der Vorderflügel mit der typischen Art punctulana Schiff. erkennen. Die kurzen, kurzgewimperten Fühler, sind hellgrau, vorgestreckten labialpalpen sehr kurz, nur von 1 1/2 Augen durchmesserlänge sehr schmal beschuppt, wie der Kopf hellgrau. Der Rüssel scheint ganz zu fehlen. Der Thorax und die einfarbigen Beine sind hellbräunlichgrau. Der Hinterleib etwas dunkler mit heller, stumpfer Spitze. Die Vorderflügel sehr gestreckt und schmal mit scharfer Spitze und sehr schrägem Saum, aber deutlichem Innenwinkel, sind sehr hellbräunlichgrau, mit unbestimmter dunkler, braunlicher Fleckenzeichnung, namentlich in der Mittelzelle. Die Ganze Flügelfläche ist mit

einzehnten erhabenen schwarzen Punktschuppen bestreut. Die Fransen sind mehr grau. Hinterflügel sehr hell, staubgrau mit weisslichen Fransen. U.-seits sind die Vorderflügel ziemlich dunkler braunlichgrau, die Hinterflügel hell staubgrau. Vorderflügellänge 9, Expansion 17 mm. Von *Doloploca punctulana* Schiff. durch viel geringere Grösse, viel schmälere Flügelform und viel hellere Färbung weit verschieden".

### Genus: Exapate HÜBNER, 1825

Typus generis: Phalaena congelatella CLERCK, 1759

Phalaena Tinea (part.) CLERCK, 1759, Icon. Ins. pl. 8.

Lithosia (part.) Fabricius, 1798, Suppl. Ent. Syst.: 460.

Diurnes (part.) Haworth, 1811, Lep. Brit.: 502.

Eutrachia (part.) Hübner, 1822, Syst. alph. Verz.: 61.

Exapate Hübner, 1825, Verz. bek. Schm.: 387.

Scinipher Frölich, 1828, Enum. Tortr. Würt.: 12.

Sciniphes Frölich, 1825, Enum. Tortr. Würt.: 103 (nom. emend.).

Lemmatophila (part.) Treitschke, 1832, Schm. Eur. 9/1: 31.

Cheimaphasia Curtis, 1833, Ent. Mag. 1: 190.

Oxypate Stephens, 1834, Ill. Brit. Ent. Haust. 4: 235 (nom. emend.).

Oxapate Stephens, 1835, Ill. Brit. Ent. Haust. 4: 420 (nom. emend.).

Cheimonophila Duponchel, 1838, Ann. Soc. Ent. Fr. 7: 131.

Cheimaphasia Agassiz, 1846, Nomencl. Zool. Lep.: 15.

Enyphantes Fernald, 1908, Gen. Tortr.: 4: 13.

Head as shown in fig. 146. Labial palps slightly upturned, haired. Basal joint rather short, the medial one thin and elongate, apical joint short, acuminate. Proboscium short, thin. Antennae in the males haired more strongly than in the females. Sexual dimorphism very distinct, the wings in the males fully developed, those of females atrophied. In the male primaries elongate, expanding outwardly, costal margin nearly straight, apex acuminate. Sc nearly straight, strongly remote from costa. The abscissa  $r_1 - r_2$  at the medial cell about three times greater than  $r_2 - r_3$ .  $R_4 - r_5$  considerably greater than  $r_5 - m_1$ . The remaining veins distinctly remote from each other; inner vein of medial cell commencing between  $r_1$  and  $r_2$ , frequently atrophied.  $A_1$  distinct. In the secondaries sc almost straight, running very near costa. Rr and  $m_1$  from

medial cell near each other, from one point or stalked. They run near each other, further on dispersing and surrounding the alar apex.  $M_2$  and  $M_3$  remote from each other, except at the medial cell.  $M_2$  and  $cu_1$  from medial cell near each other, sometimes from one point. Primaries in the females strongly narrowed, lanceolate, pointed. Venation variable. The branches of the radius atrophied, frequently only  $r_4$  and  $r_5$  present. The last touching the termen below alar apex.  $M_1$ ,  $m_2$ ,  $m_3$ and  $cu_1$  short, touching termen.  $Cu_2$  absent. Sometimes only two branches of mediana  $(m_2, m_3)$ . Secondaries extremely atrophied. In the male genital armature tegumen very broad; uncus short with a broad base; aedeagus straight, thin, without cornuti: gnathos massive; socii long; transtilla and gnathos clothed with minute spines; valva long; sacculus with a swelling. In the female genitalia labia similar as in Eana BILB. or Cnephasia Curt., broad. The hairs tipped with swellings occur; lamella antevaginalis haired; ductus bursae and bursa copulatrix very transparent; signum absent.

The genus discussed comprises two species, one of them occurring in the high altitudes, and the second one in the lowland regions. The imagines appearing in the autumn, but some pupae hibernating [Exapate congelatella (Cl.)] and the moths fly in the early spring (Kennel, 1910). The caterpillars feed in majority on bushes and trees.

### Exapate congelatella (CLERCK, 1759)

[Pl. XXXI, fig. 115, 116, pl. LIII, fig. 245, pl. LXVII, fig. 314]

Phalaena Tinea congelatella Clerck, 1759, Icon. Ins. pl. 8, fig. 5; Phalaena Tinea gelatella Linnaeus, 1761, Fauna Suec. ed. 2: 370; Phalaena paradoxa Sulzer, 1776, Abgek. Gesch. Ins.: 163, pl. 23, fig. 21, 22; Lithosia gelata Fabricius, 1798, Suppl. Ent. Syst.: 460; [Tortrix] gelatana Hübner, 1818 - 19, Samml. Eur. Schm. Tortr. pl. 42, fig. 266, non binom.; Eutrachia gelatana Hübner, 1822, Syst.-alph. Verz.: 61; Exapate congelatella Kennel, 1910, Pal Tortr.: 227, pl. 11, fig. 19, 21; Ephynantes congelatella Pierce & Metcalfe, 1922, Genit. Brit. Tortr. Isl.: 14, pl. 6; Exapate congelatella Benander, 1950, Svensk. Insektf.: 60, fig. 4 n; Obraztsov, 1955, Tijdschr. Ent. 98; fig. 280—282, 295—298; Obraztsov, 1956, Tijdschr. Ent. 99: 119; Exapate duratella Bradley & Martin, 1956,

Ent. Gaz. 7: 153; Exapate congelatella Bradley & Martin, 1956, Ent. Gaz. 7, pl. 6; Razowski, 1957, Acta Zool. Crac. 1: 120, pl. 14, fig. 3, pl. 20, fig. 1, pl. 23, fig. 3, 4.

Ab. kenneli Schille, 1924.

Exapate congelatella ab. kenneli Schille, 1924, Pol. Pis. Ent. 3: 14; Exapate congelatella var. Kennel, 1910, Pal. Tortr.: 227, pl. 11, fig. 20.

Primaries expanding outwardly, costal margin straight, termen oblique; colouring nearly uniformly grey brown, more or less darkened; fringes a little paler. Frequently a lighter and more grey streak along the middle of the wing at the medial cell. Two dark brown specks, one of them at the end of medial cell and the other in one third of wing's length. Secondaries grey brown, transparent, fringes concolorous. In the females the margins of the primaries haired, ground colour grey brownish, spotted with dark (especially along the peripheries). Forewing of the male 12 mm. and of the female about 6 mm. long.

Ab. kenneli Schille. A broad whitish streak running along the middle of the forewing of the male. A dark stripe from the spot at the apex of medial cell towards the dorsal margin. This stripe very indistinct in the typical specimens.

Male genital armature: valva slender, sacculus with a small swelling; uncus very short; socii thin; aedeagus thin, small.

Female genitalia: lamella antevaginalis elongated, lamella subgenitalis and gonapophyses massive. Bursa copulatrix transparent.

The species occurring in Europe except in its southern districts. The imagines appear in the late autumn and probably also in the spring.

Caterpillar light green, subdorsal lines paler, head yellowish green, frequently spotted with black laterally; thoracic plate dark or yellowish. It feeds among the rolled leaves of *Berberis vulgaris* L., *Prunus spinosa* L., *Rubus idaeus* L., *Crataegus* L., and others. Feeding time: May, June and partly July.

Examined material:

Germany — 1 spec. from Mark Brandenburg (coll. S. Toll) — Poland — several spec. from Wrocław, Bydgoszcz and Poznań (coll. Zool. Mus. Humb. Univ. Berlin, I. Z. P. A. S., Warszawa and S. Toll).

## Exapate duratella HEYDEN, 1864

[Pl. XXXI, fig. 117, 118, 119, pl. LIII, fig. 246, pl. LXVII, fig. 315]

Exapate duratella Heyden, 1864, Mitth. Schweiz. Ent. Ges. 1: 191; Kennel, 1910, Pal. Tortr.: 228, pl. 11, fig. 22, 23; Obraztsov, 1956, Tijdschr. Ent. 99: 119.

The shape of the primaries similar as in the previous species, colouring more paler. Ground colour of the forewing in the male cinereous, grey or sometimes whitish, venation distinctly marked; pattern grey black, similar as in the former species, but the medial streak somewhat more distinct; fringes concolorous with the ground. Secondaries transparent, grey a little tinged brown; fringes concolorous. Primaries in the female light, whitish, distinctly spotted with blackish along the costal and dorsal margin; these spots form sometimes bands. Forewing in the male up to 12 mm. and in the female about 5 mm. long.

Male genital armature very similar as in the former species, having, however, considerably longer aedeagus, broader socii and more concave ventral edge of sacculus.

Female genitalia very similar as in the previous species. The species is reported from the mountainous districts of France and Switzerland. It appears in July.

Caterpillar grey brown, subdorsal lines yellowish, head light brown; thoracic plate sprinkled with dark dots. It feeds on *Larix* MILL. and probably also on other plants.

#### ... Examined material:

Switzerland — 3 males and females from Zermatt (coll. S. Toll), 1 spec. "Rhaetia" (coll. Zool. Mus. Humb. Univ., Berlin).

#### Genus: Euledereria FERNALD, 1908

#### Typus generis: Tortrix alpicolana FRÖLICH, 1830

Tortrix (part.) Frölich, 1830, in Hübner's & Geyer's Samml. Eur. Schm. Tortr.: 16.

Coccyx (part.) Duponchel, 1835, Hist. Nat. Lép. Fr. 9: 240.

Sciaphila (part.) Treitschke, 1835, Schm. Eur. 10/3: 86. Sphaleroptera Guenée, 1845, Ann. Soc. Ent. Fr. ser. 2, 3: 167.

Eulederia (err.) Fernald, 1908, Gen. Tortr.: 31.
Euledereria Fernald, 1908, Gen. Tortr.: 59 (nom. emend.).
Cnephasia (part.) Meyrick, 1912, Wagner's Lép. Cat. 10: 47.

This genus, comprising only one species, is very characteristic by distinct sexual dimorphism. The structure of genitalia, as well as the venation of the wings differs from other genera of *Cnephasiini*.

Labial palps rather long, basal joint big, the medial one elongate and dilated just a little before its apex, somewhat upturned, distinctly haired; apical joint broad. Antennae scaled, in the males hairs stronger than in the females. Proboscium well developed. Primarjes of the male (pl. XXXV, fig. 162) distinctly acuminate, narrow, costal margin nearly straight, termen oblique. Secondaries rather broad; rr and  $m_1$  stalked or from one point;  $m_3$  and  $cu_1$  from one point or stalked;  $m_2$ and m, parallel to each other. Forewing in the female lanceolate, costal margin arcuate, apex acuminate. Venation as in the male,  $m_3$  and  $cu_1$  run separately or partially fused with each other, cu, and cu, approximated to each other at the margin of the wing. Hindwing very narrow, acuminate, venation changed and reduced. Rr and  $m_1$  fused with each other on a longer distance than in the males,  $m_3$  and  $cu_1$  stalked,  $m_3$  long,  $cu_2$  very short (pl. XXXV, fig. 163). In the male genital armature valva broad basally and strongly tapered apically, sacculus massive, bifurcated apically; uncus short, gnathos finely built, thin; aedeagus long. In the female genitalia lamella antevaginalis narrow, ostium bursae broad, introitus vaginae strongly sclerotized, signum absent; ovipositor built similarly as in Cnephasia Curt.

## Euledereria alpicolana (FRÖLICH, 1830)

[Pl. XXXI 120, pl. XXXII, fig. 121, pl. LIV, fig. 247, pl. LXVII, fig. 316]

Tortrix alpicolana Frölich, 1830, Hübner's & Geyer's, Samml. Eur. Schm. Tortr.: 16, pl. 52, fig. 328, 329; Sphaleroptera alpicolana Kennel, 1910, Pal. Tortr.: 219, pl. 11, fig. 9, 10; Cnephasia (Sphaleroptera) alpicolana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56; Euledereria alpicolana Obraztsov, 1955, Tijdschr. Ent. 98, fig. 288—299, 310—314; Obraztsov, 1956, Tijdschr. Ent. 99: 124.

Ab. lugubrana (Della-Beffa, 1934).

 $Sphaleroptera\ alpicolana$ ab. lugubrana Della-Beffa, 1934. Boll. Lab. Sper. Fitopat. Torino 11: 94.

Male. Primaries slender, somewhat expanding outwardly, costal margin nearly straight, termen oblique. Ground colour whitish grey with grey greenish hue, lightened at places. Basal area darkened, basal band broad, brown black, the remaining components of the pattern also brown black. Medial band curved at places, frequently interrupted, especially above dorsal margin. The spot situated at the termen distinct, smeared below the alar apex. Several dark specks above medial band and several smaller ones along the dorsal and costal margins. Fringes somewhat darker than the ground. Secondaries brown grey, dark, fringes a little paler.

Female. The shape of the wings as in male specimens. Colouring usually darker than in the males, the bands in the primaries more uniform, the specks below the alar apex amalgamated with each other forming a third band. Secondaries grey brown. Forewing in the male about 9 mm. and in the female about 7 mm. long.

Male genital armature: valva very broad basally, strongly tapered apically, sacculus bifurcated; aedeagus long, bent, provided with a characteristic heavily sclerotized long and thin rod; tegumen narrow, uncus small; socii and gnathos thin.

In the female genitalia labia broad, lamella antevaginalis narrow, ostium bursae and introitus vaginae broad, heavily sclerotized, ductus bursae short. Signum absent.

The species occurring in the Alps and according to RÉAL (1953) in the Pyrenees. The imagines appear in May, June and July. Females probably not flying. Early stages and food plant unknown.

Ab. lugubrana (Della-Beffa). The light stripes in the primaries absent. Known from high altitudes.

Examined material:

Switzerland — 6 male and female spec. from Engadin (coll. I. Z. P. A. S., Warszawa), 2 spec. from Engadin and 1 spec. from Tessin (coll. S. Toll) — Austria — 1 spec. from Styria (coll. S. Toll), 1 spec. from Splügen, 1 spec. from Dachstein, 1 spec. from Allgeu Mädlejoch.

### Genus: Trachysmia GUENÉE, 1845

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#### Typus generis: Tortrix rigana Sodoffsky, 1829

Tortrix Sodoffsky (non Linnaeus), 1829, Bull. Soc. Imp. Nat. Moscou 1: 144.

Sciaphila (part.) Treitschke, 1830, Schm. Eur. 8: 182.

Teras (part.), Treitschke, 1835, Schm. Eur. 10/3: 139.

Trachysmia Guenée, 1845, Ann. Soc. Ent. Fr. ser. 2, 3: 164.

Lophoderus (part.) Lederer, 1859, Wien. Ent. Mnschr. 3: 250.

Eulia (part.) Rebel, 1901, Stgr.-Reb. Cat. 2: 88.

Cnephasia (part.) Meyrick, 1912, Wagner's Lep. Cat. 10: 48.

Antennae scaled and haired, in the males hair stronger than in the females. Basal joint of labial palps short, the medial one elongate, heavily haired, broad; apical joint small. concealed in the hair of medial joint (pl. XXXIV, fig. 149). Proboscium short. Primaries expanding outwardly, costal margin slightly arcuate, termen oblique. Secondaries produced apically. Venation as shown in pl. XXXV, fig. 164. In the forewing  $r_1$  from about the half of upper edge of medial cell. Other radialis distinctly remote from each other except  $r_4$  from  $r_5$ . Medialis run separately.  $Cu_1$  and  $cu_2$  approximated to each other at the margin of the wing. Inner vein of medial cell depart between  $r_1$  and  $r_2$ . In the hindwing sc curved, rr and  $m_1$  from medial cell near each other from one point, or short stalked;  $m_2$  and  $m_3$  remote from each other;  $m_3$  and  $cu_1$  depart near each other or from one point;  $cu_2$  approximated to  $cu_1$ at the margin of the wing. In the male genital armature valva elongate; sacculus heavily sclerotized, bent, provided with a separate tip; uncus rather long, thin; tegumen broad; socii broad; gnathos narrow; transtilla dilated in its half and minutely spined; aedeagus thin and long, without cornuti. In the female genitalia labia narrow, covered with equal thin hairs, lamella antevaginalis and subgenitalis heavily sclerotized: ductus bursae fairly short, provided with a more heavily sclerotized ring; bursa copulatrix with an oval body, signum consisting of several spines, occasionally scattered, or grouped in patches.

The genus comprises the only species occurring in the Palaearctic region. Two generation in a year, the caterpillar of the second generation hibernates. Food plant —  $Anemone\ L$ .

### Trachysmia rigana (Sodoffsky, 1829)

[Pl. XXXII, fig. 122, 123, 124, pl. LIV, fig. 248, pl. LXVII, fig. 317]

Tortrix rigana Sodoffsky, 1829, Bull. Soc. Imp. Nat. Moscou 1: 144, pl. 3, fig. 5; Tortrix horridana Frölich, 1830, Hübner's & Geyer's Samml. Eur. Schm. Tortr.: 14, pl. 52, fig. 327; Sciaphila modestana Treitschke, 1830, Schm. Eur. 8: 182; Tortrix rigana Kennel, 1910, Pal. Tortr.: 166, pl. 8, fig. 46, 47; Benander, 1950, Svensk Insektf.: 42, fig. 5 j; Cnephasia Trachysmia rigana Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56; Trachysmia rigana Obraztsov, 1955, Tijdschr. Ent. 98, fig. 291, 292, 310—314; Obraztsov, 1956, Tijdschr. Ent. 99: 124; Razowski, 1957, Acta Zool. Crac. 1: 119, pl. 14, fig. 1, pl. 19, fig. 3, pl. 23, fig. 1.

Ab. monticolana (FREY, 1880).

Tortrix rigana ab. monticolana Frey, 1880, Lep. Schweiz: 289; Tortrix rigana Herrich-Schäffer, 1863, Corr.-bl. zool.-min. Ver. Regensburg 17: 152; Cnephasia Trachysmia monticola Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56; Tortrix rigana Kennel, 1910, Pal. Tortr.: 166, pl. 8, fig. 48.

Ab. caeca (Réal, 1953).

Cnephasia Trachysmia rigana ab. caeca Réal, 1953, Bull. Mens. Soc. Linn. Lyon 22: 56; Tortrix rigana monticolana Kennel, 1910, Pal. Tortr.: 166; Tortrix rigana (part.) Kennel, 1910, Pal. Tortr. pl. 9, fig. 49.

Costal margin of the primaries slightly arched or straight except at the alar base; termen oblique. Groud colour white, pattern grey, grey brown or even grey black. A spot in the basal area, medial band broad, somewhat narrowed at the costa. Outer spot narrow, the spot below the costa elongate, narrow. Fringes grey. Secondaries brown, transversally stripped with darker. Fringes light. Forewing 8—10 mm. long.

Ab. monticola (FREY). Specimens with darkened ground of the primaries. Costal margin lightened whitish; bands broadened sprinkled with dark dots. A form occurring in the high altitudes.

Ab. caeca (Réal). A high montainous form strongly darkened, nearly unicoloured.

Male genital armature: valva broad basally, further on strongly tapered; sacculus long, massive; transtilla broadened in its middle, covered with minute spikes; uncus long, thin; socii broad; aedeagus slender.

Female genitalia: lamella antevaginalis short and broad, strongly sclerotized; a strongly sclerotized stripe in the ductus bursae; signum consisting of spines.

This species is distributed in Europe with exception of Great Britain and most northern regions. It is reported also from Siberia. Both ecological aberrations occur in the high Alps.

Caterpillar grey; head ochreous yellow, thoracie plate concolorous with the head. It feeds in May and June and in the second generation in autumn and spring on *Anemone* L. Imagines appear in April and June and then in July and August.

Examined material:

Switzerland — 5 spec. from Engadin (coll. I. Z. P. A. S., Warszawa) — Austria — several spec. (coll. I. Z. P. A. S., Warszawa) — Germany — several spec. from Bavaria (coll. I. Z. P. A. S., Warszawa) — USSR — 1 spec. from Guberlinskaja (Southern Ural) (coll. I. Z. P. A. S., Warszawa); 1 spec. from Western Podolia — Dźwinogród distr. Borszczów (coll. S. Toll.).

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#### STRESZCZENIE

Niniejsza praca jest podsumowaniem badań autora nad europejskimi gatunkami *Cnephasiini*. Autor omawia systematykę, morfologię i rozmieszczenie geograficzne *Cnephasiini*, rewiduje układ systematyczny i podaje charakterystyki rodzajów i gatunków. Poza tym opisuje następujące nowe ga-

tunki i formy: Cnephasia sareptana sp. nov., C. minima sp. nov., Eana incognitana sp. nov., E. jäckhi sp. nov., E. rundiapicana sp. nov., E. herzegovinae sp. nov., E. penziana fiorana ssp. nov. oraz E. penziana amseli f. nov.

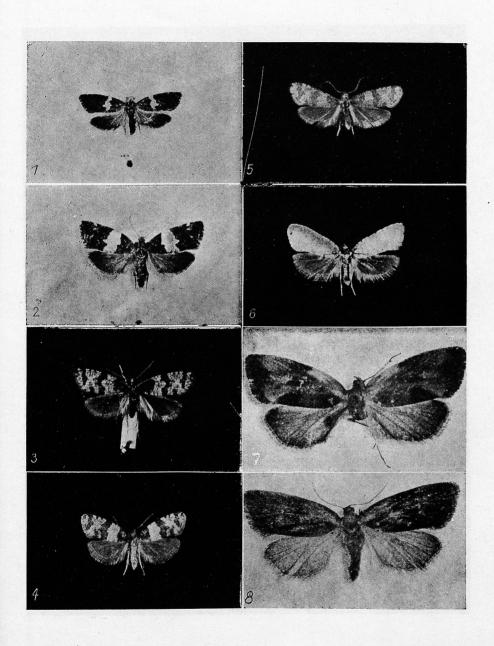
РЕЗЮМЕ

Настоящая работа представляет сводку исследований автора Европейских видов Cnephasiini.

Автор оговаривает систематику, морфологию и зоогеографию Cnephasiini, проводит ревизию систематического порядка и приводит характеристики родов и видов. Кроме того автор описывает следующие новые виды и фопмы: Cnephasia sareptana sp. nov., C. minima sp. nov., Eana incognitana sp. nov., E. jäckhi sp. nov., E. rundiapicana sp. nov., E. herzegovinae sp. nov., E. penziana fiorana ssp. nov., E. penziana amseli f. nov.

#### PLATE XVII

- Fig. 1. Olindia schumacherana (FABR.). 3, "Zawiercie, Chełmowa Góra, 7 VI 1937, leg. Masłowski".
- Fig. 2. Olindia schumacherana (FABR.). ♀, "Regensb., 1885".
- Fig. 3. Isotrias rectifasciana (HAW.). "Krahnbg. b. Gotha, 4 VII [19]09".
- Fig. 4. Isotrias hybridana (HBN.). "Wien, 1886".
- Fig. 5. Isotrias hybridana (HBN.) ssp. pedemontana (STGR.). "Macugnaga, 25 VI, Type".
- Fig. 6. Isotrias stramentana (Guen.). "Angers".
- Fig. 7. Eulia ministrana (L.). "Tatry, Hala Ornak, 10 VII 1956, leg. J. Razowski".
- Fig. 8. Eulia ministrana (L.). "Tatry, Hala Gąsienicowa, 15 VII 1954, leg. J. RAZOWSKI".



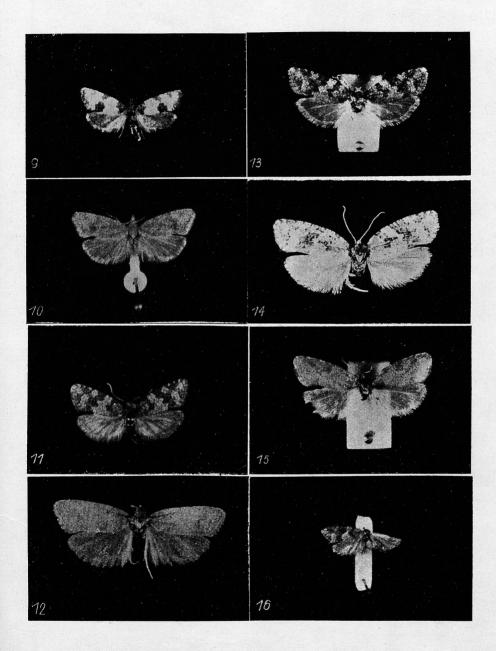
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# PLATE XVIII

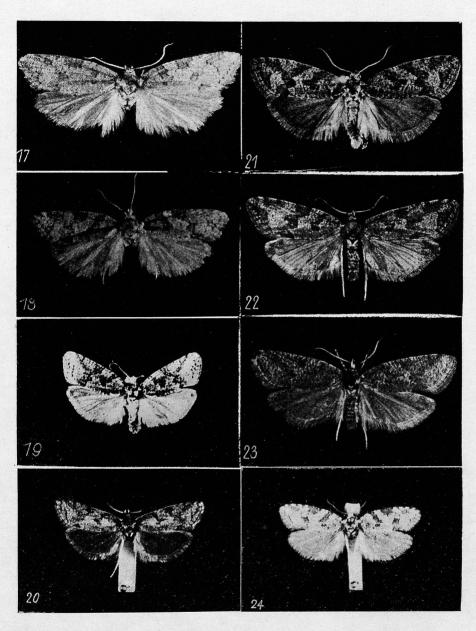
- Fig. 9. Propiromorpha rhodophana (H.-S.). "Krzywcze pow. Borszczów, 6 VI 1936, leg. S. Toll".
- Fig. 10. Cnephasia (Cnephasiella) abrasana (Dup.). "Herzegovi[na], Igalo, 1 V 1938, leg. H. G. Amsel".
- Fig. 11. Cnephasia (Cnephasiella) incertana (Tr.). "Kraków, 11 VI 1950, leg. J. Razowski".
- Fig. 12. Cnephasia (Cnephasiella) incertana (Tr.) f. atticana RAZ., "Attica, [18]67, Paratype".
- Fig. 13. Cnephasia (Cnephasiella) incertana (Tr.) f. burgüniana RAZ. "Bergün, Helvetia, 7 VII 1872, Holotype".
- Fig. 14. Cnephasia (Cnephasia) cinareana Chrét. "Coll. Led[erer]".
- Fig. 15. Cnephasia (Cnephasia) sareptana sp. n. "Rossia m. Sarepta, 1867, Chr[ISTOPH]".
- Fig. 16. Cnephasia (Cnephasia) crassifasciana Joann. "Type, St. Laens 14 VII".



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## Plate XIX

- Fig. 17. Cnephasia (Cnephasia) alfacarana RAZ. "Sierra de Alfacar m., 17 VI [18]80, Holotype".
- Fig. 18. Cnephasia (Cnephasia) alfacarana RAZ. "Sierra de Alfacar m. [18]80, Allotype".
- Fig. 19. Cnephasia (Cnephasia) cupressivorana (STGR.).
- Fig. 20. Cnephasia (Cnephasia) cupressivorana (Stgr.) ab. apenninicola Obr. "Aritzo, 20—24 V 53".
- Fig. 21. Cnephasia (Cnephasia) communana (H.-S.). Lwów, Western Ukraine.
- Fig. 22. Cnephasia (Cnephasia) communana (H.-S.). "Zawiercie, Lasy Kromołowskie, 26 V 1935, leg. Masłowski".
- Fig. 23. Cnephasia (Cnephasia) communana (H.-S.). "Zawiercie, Blanowska Góra, 8 VI 1944, leg. Masłowski".
- Fig. 24. Cnephasia (Cnephasia) parnassicola RAZ. "Montes Ibericos, Albarracin, 1—15 VIII [19]25, leg. WAGNER".

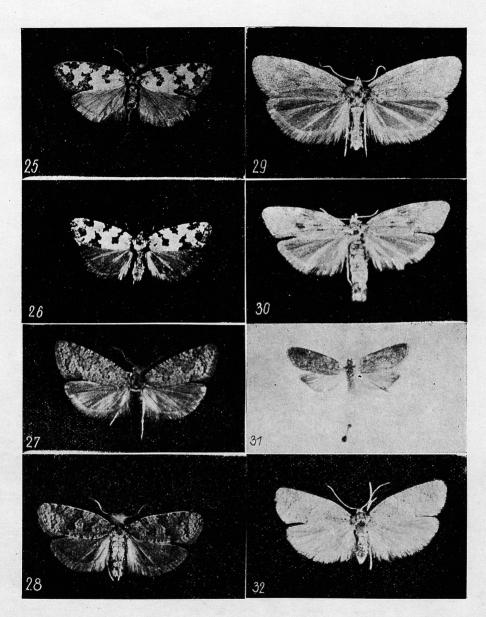


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## Plate XX

- Fig. 25. Cnephasia (Cnephasia) laetana (Stgr.). "S. Gredos, Garg. Pozas, Cast.".
- Fig. 26. Cnephasia (Cnephasia) laetana (Stgr.). "S. Gredos, Garg. Pozas, Cast., 1900 M. 8 VII 1934, M. Reisser".
- Fig. 27. Cnephasia (Cnephasia) alticolana (H.-S.). "Stary Sącz, leg. Klemensiewicz".
- Fig. 28. Cnephasia (Cnephasia) virgaureana (Tr.). Nozdrzec, Western Ukraine.
- Fig. 29. Cnephasia (Cnephasia) microstrigana RAZ. "S[an] Ildefonso, Paratype".
- Fig. 30. Cnephasia (Cnephasia) microstrigana RAZ. "Sciaph. spec. ignota, 677, Paratype".
- Fig. 31. Cnephasia (Cnephasia) bleszyńskii Toll, "Sudety (Duszniki) 1938". Holotype.
- Fig. 32. Cnephasia (Cnephasia) pascuana (HBN.). "Lwów".

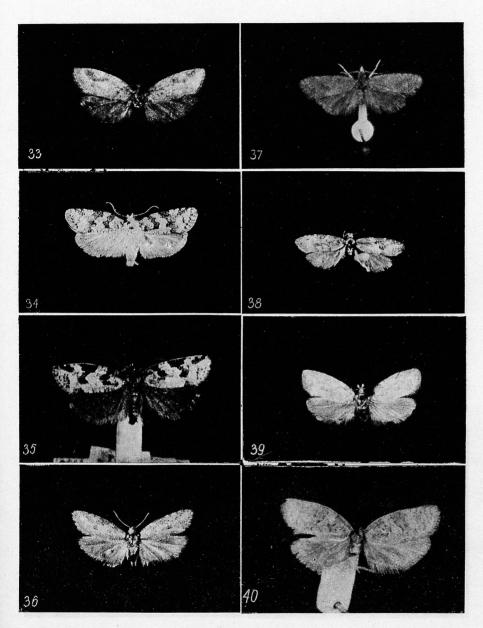


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## Plate XXI

- Fig. 33. Cnephasia (Cnephasia) genitalana (P. & M.). "Anglia".
- Fig. 34. Cnephasia (Cnephasia) chrysantheana (Dup.).,,Kraków".
- Fig. 35. Cnephasia (Cnephasia) octomaculana Steph. "Paysley".
- Fig. 36. Cnephasia (Cnephasia) conspersana Dougl. "Hispania, Cuenca, VI—VII 1922, Korb.".
- Fig. 37. Cnephasia (Cnephasia) tolli RAZ. "Kyrenia, Cyprus, II 1947".
- Fig. 38. Cnephasia (Cnephasia) heringi Raz. "Ankara, 25—27 VI 1934, H. Noack".
- Fig. 39. Cnephasia (Cnephasia) pumicana (Zell.). "Spalato, Kr.".
- Fig. 40. Cnephasia (Cnephasia) pumicana (Zell.). "Syracus, 6 Jun., Cotype".

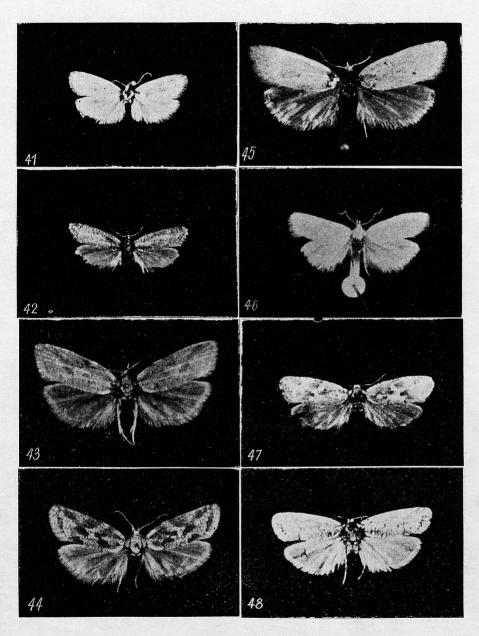


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## Plate XXII

- Fig. 41. Cnephasia (Cnephasia) hellenica OBR. "Pola, 1 IV".
- Fig. 42. Cnephasia (Cnephasia) hellenica Obr. "Hispania, prov. Madrid, Cleu Vallejos, VI 1927, ESCAL[ERA] leg.".
- Fig. 43. Cnephasia (Cnephasia) longana (HAW.). "Hamburg, 21 VII [18]88".
- Fig. 44. Cnephasia (Cnephasia) longana (HAW.). "Hamburg, 25 VII [18]88".
- Fig. 45. Cnephasia (Cnephasia) longana (HAW.). "Mauretania, Guelma, 1884".
- Fig. 46. Cnephasia (Cnephasia) longana (HAW.). "Muravera, Sardegna, 2 VI 1936, leg. H. G. Amsel".
- Fig. 47. Cnephasia (Cnephasia) longana (HAW.). "Sardinia".
- Fig. 48. Cnephasia (Cnephasia) longana (HAW.). "Sardinia".



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## Plate XXIII

Fig. 49. Cnephasia (Cnephasia) klimeschi Raz. "Macedonia, Stari Dojran, 10—19 VI 1955, leg. J. Klimesch, Holotype".

Fig. 50. Cnephasia (Cnephasia) bizensis Réal".

Fig. 51. Cnephasia (Cnephasia) taurominana RAZ.".

Fig. 52. Cnephasia (Cnephasia) gueneana (Dup.).".

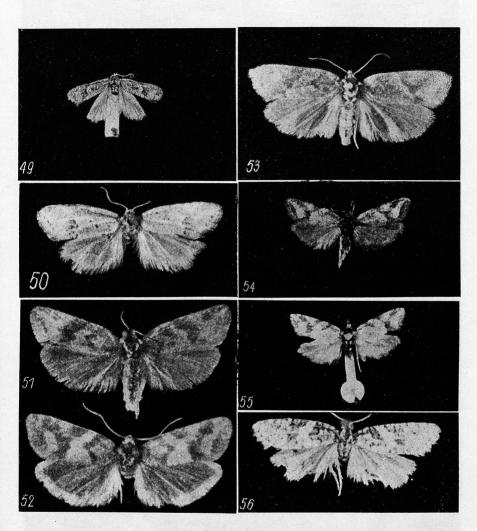
Fig. 53. Cnephasia (Cnephasia) gueneana (Dup.). "Magad., 15 V [18]95".

Fig. 54. Cnephasia (Cnephasia) gueneana (Dup.). "Malta, Garghur".

Fig. 55. Cnephasia (Cnephasia) nuraghana Ams. Sardinia.

Fig. 56. Cnephasia (Cnephasia) fragosana (Zell.). "Graecia".

J. Rozawski

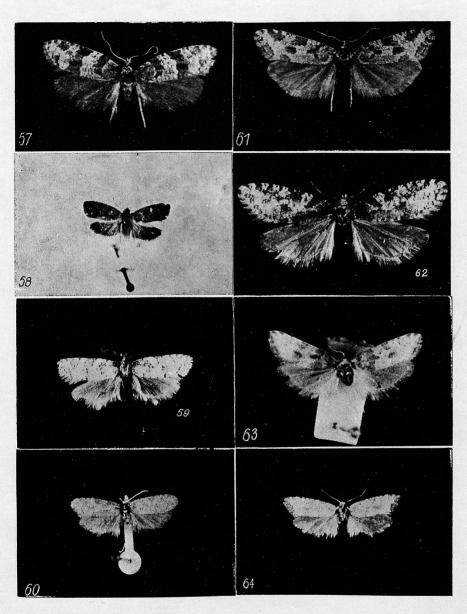


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## Plate XXIV

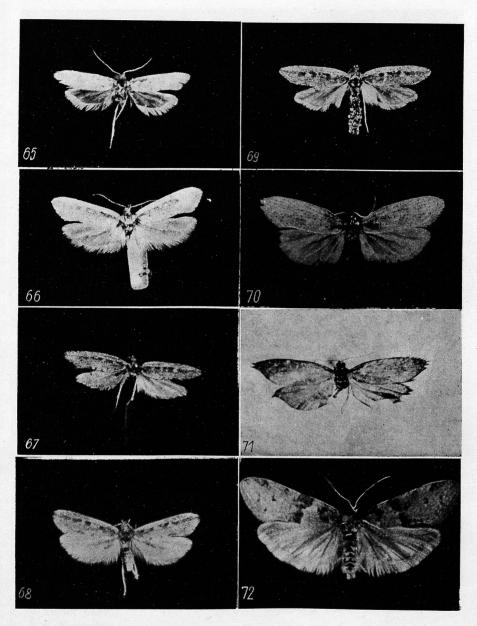
- Fig. 57. Cnephasia (Cnephasia) semibrunneata (Joann.). "Macedonia".
- Fig. 58. Cnephasia (Cnephasia) tyrrhaenica Ams. "Porto Santoru Sardegna or., 8 VI 1936, H. G. Amsel, Typus".
- Fig. 59. Cnephasia (Anoplocnephasia) heinemanni Obr. "Parco N. Abruzzo Pascaseroli, 24 VI 949, A. Fiori".
- Fig. 60. Cnephasia (Anoplocnephasia) minima sp. n. "Herzegovina, Mostar, 8 VI 1912, D. Schawerda". Holotypus.
- Fig. 61. Cnephasia (Anoplocnephasia) sedana (Const.). "Styria, Totes Geb. Steyersee 1700 m., 16 VI 1934 J. KLIMESCH".
- Fig. 62. Cnephasia (Anoplocnephasia) sedana (Const.). "Engadin e. l., H.-Sch.".
- Fig. 63. Cnephasia (Anoplocnephasia) orientana (Alph.). "Rossia m., Sarepta, Stgr., 1889",
- Fig. 64. Cnephasia (Anoplocnephasia) orientana (Alph.). "Odessa, 14 VII [19]19, leg. J. Romaniszyn".



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## Plate XXV

- Fig. 65. Oxypteron exiguanum (LAH.). "Cors. Palermo, 4 IV 1907".
- Fig. 66. Oxypteron politum (WALS.). "Madrid e. l., 19 IX [190]1". 3.
- Fig. 67. Oxypteron politum (WALS.). "Rivas". Q.
- Fig. 68. Oxypteron impar STGR. "Origin, Typus, Sarepta". 3.
- Fig. 69. Oxypteron impar Stgr. "Origin, Typus, Sarepta". Q.
- Fig. 70. Oxypteron wertheimsteini (RBL.). "RJABOV; iz patikow Chondrilla juncca".
- Fig. 71. Tortricodes violellus RAZ. "S. Maria d. Lago, 11 IV 1906, Is Medela, Holotypus".
- Fig. 72. Tortricodes tortricella (HBN.). "ex coll. Klemensiewicz", Poland.

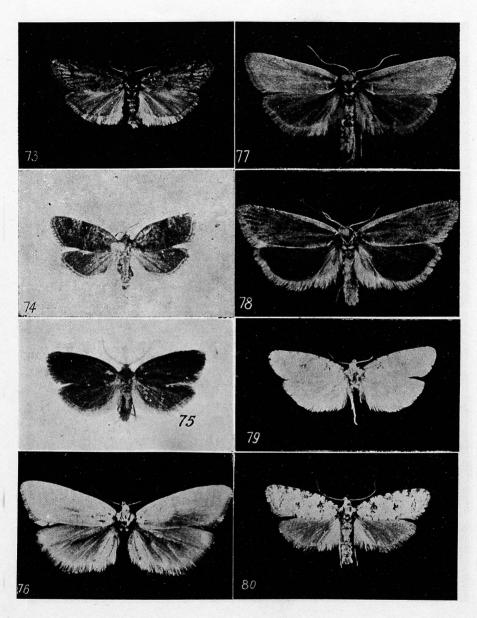


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## Plate XXVI

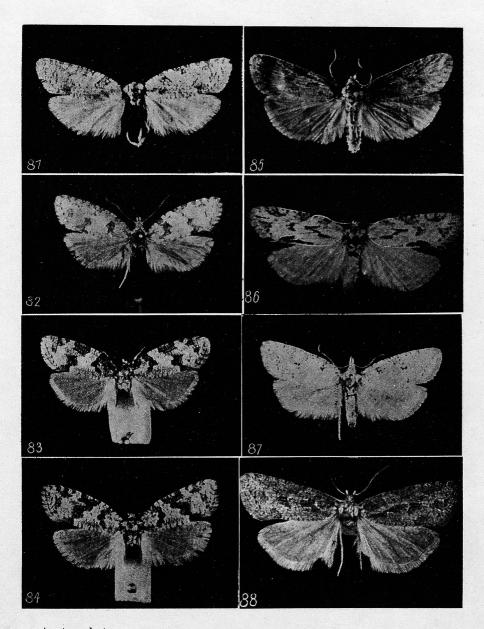
- Fig. 73. Tortricodes tortricella (HBN.). "Nierada, Lasy Rudnickie, 9 VI 1935, leg. Masłowski".
- Fig. 74. Neosphaleroptera nubilana (HAW.). "Bronowice, Kraków 10 VI 1954, leg. J. RAZOWSKI". ♀.
- Fig. 75. Neosphaleroptera nubilana (Haw.). "Kraków 27 V 1953, leg. J. Razowski".  $\beta$ .
- Fig. 76. Eana (Ablabia) argentana (Clerck). "Łotatniki 7 VI 1925, leg. J. Romaniszyn".
- Fig. 77. Eana (Ablabia) osseana (Scop.). Western Ukraine.
- Fig. 78. Eana (Ablabia) osseana (Scop.). Western Ukraine.
- Fig. 79. Eana (Eana) hungariae RAZ. "var. hungariae, KINDERMANN, Holotypus".
- Fig. 80. Eana (Eana) canescana (Guen.). "Pomorzany, Olkusz, 393 m, 14 VIII 1942, leg. S. Toll".



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## Plate XXVII

- Fig. 81. Eana (Eana) canescana (GUEN.). "Botzen".
- Fig. 82. Eana (Eana) canescana (GUEN.). "Gallia m., Alpes, 1892, CST.".
- Fig. 83. Eana (Eana) pyrenaica (Toll). "Pyrenaei, Cauterets, SBD., VII 1890".
- Fig. 84. Eana (Eana) pyrenaica (TOLL). "Pyrenaei, Cauterets, SBD., VII 1890".
- Fig. 85. Eana (Eana) nervana (Joan.). "St. Ildefonso, Escalera".
- Fig. 86. Eana (Eana) nervana (Joan.) f. subnervana Raz. "Hisp. Sierra de Gredos, Garganta de las Pozas, 2000 m, 4 VIII 1939, H. Dürck".
- Fig. 87. Eana (Eana) italica (OBR.). "Macedonia, Ochrida".
- Fig. 88. Eana (Eana) cottiana (CHRÉT.). "H.-tes Alpes, La Basée, 12 VII [19]24".

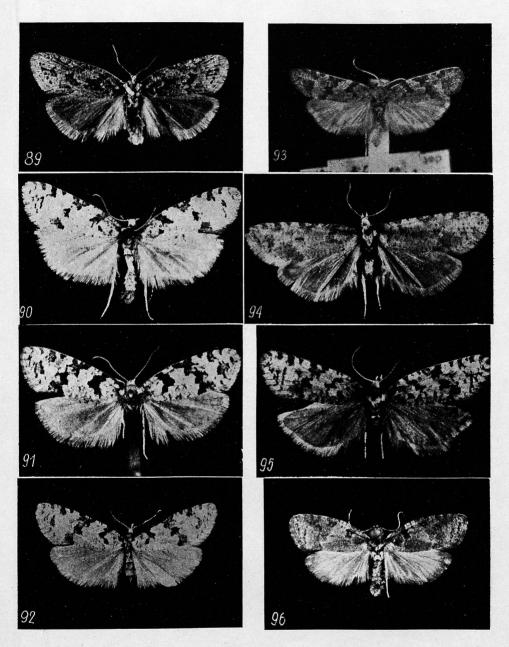


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#### Plate XXVIII

- Fig. 89. Eana (Eana) cottiana (Chrét.). "Gall. mer. H.-tes Alpes, La Basée, e. l. 24 VII [19]25".
- Fig. 90. Eana (Eana) penziana (THNBG.). "Helvetia, Engadin, VII 1870".
- Fig. 91. Eana (Eana) penziana (THNBG.). "Carinthia, Wolfsberg, 1893".
- Fig. 92. Eana (Eana) penziana (THNBG.) f. amseli f. n. "Südtirol, Waldbruck, Dr. SCHAWERDA".
- Fig. 93. Eana (Eana) penziana (THNBG.) ssp. colquhounana BARR. Anglia.
- Fig. 94. Eana (Eana) penziana (THNBG.) ssp. fiorii ssp. n. "Abruzzo, Gran Sasso, 25 VII 1935, leg. A. Fiori".
- Fig. 95. Eana (Eana) viridescens RBL. "N. Kaucasus, fl. Zeja, Alp. reg., 8 VIII 1931, ex coll. RJABOV".
- Fig. 96. Eana (Eana) incanana (STEPH.). "Zawiercie, Chełmowa Góra, 5 VII 1936, leg. Masłowski".

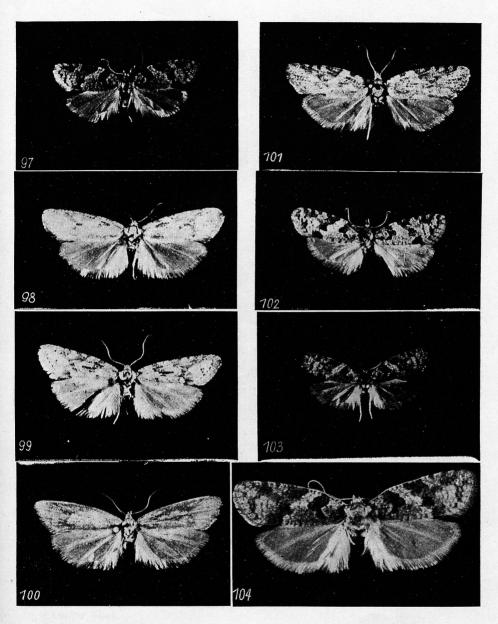


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#### Plate XXIX

- Fig. 97. Eana (Eana) incanana (STEPH.). "Scotia, Dbld.".
- Fig. 98. Eana (Eana) nevadensis (RBL.). "Siera [sic!] Nevada, 1500—2000 m., VII [19]27 BUBAC[EK], Type A".
- Fig. 99. Eana (Eana) nevadensis (RBL..). "S. Nevada, Pt. del Lobo, 2180 m., 19 VII 1930, REISSER".
- Fig. 100. Eana (Eana) nevadensis (RBL.). "S. Nevada, Pt. del Lobo, 2100 m. 20 VII 1927, REISSER".
- Fig. 101. Eana (Eana) nevadensis (RBL.).  $\circ$ , "S. Nevada, Pt. del Lobo 15 VII 1930, Reisser".
- Fig. 102. Eana (Eana) joannisi (Schaw.). "Corse, 1800 m., Monte d'Oro, 9 VII 1928, Schawerda", Cotype.
- Fig. 103. Eana (Eana) derivana (Lah.). "Czorsztyn, Zamek, 28 VII 1955, leg. R. Żukowski".
- Fig. 104. Eana (Eana) derivana (Lah.). "Alban Exp., 4—14 VI [19]18 PASHTRIK".

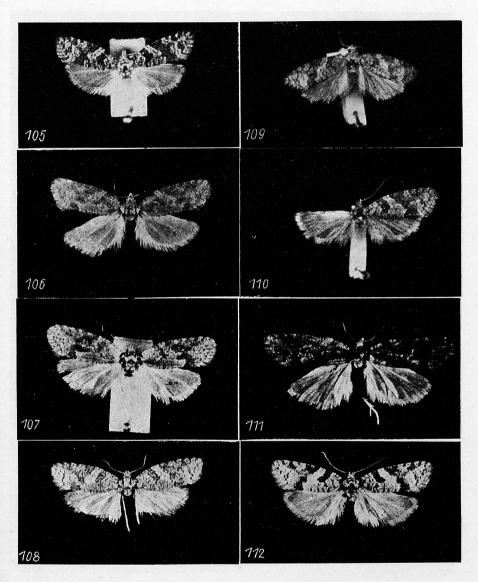


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## Plate XXX

- Fig. 105. Eana (Eana) incognitana sp. n. "Engadin, 1870, Holotypus".
- Fig. 106. Eana (Eana) jäckhi sp. n. "Ecully 28 VI 1908, Holotypus".
- Fig. 107. Eana (Eana) rundiapicana sp. n. "Bomisch, 5 VII [18]94" "Holotypus".
- Fig. 108. Eana (Eana) herzegovinae sp. n. "Baŝina, Herz., 28 VI, Holotypus.
- Fig. 109. Eana (Eana) cyanescana Réal. "H.-type 3, Museum, coll. Dumont".
- Fig. 110. Eana (Eana) cyanescana Réal. "Abriès, Hautes Alpes, 1—15 VIII coll. D. J.".
- Fig. 111. Eana (Eana) clercana (Joann.). "S. Gredos, Hoyos d'Esp., Castilia, 1400 m., 19 VII [19]36".
- Fig. 112. Eana (Eana) viardi RÉAL. "Valesia".

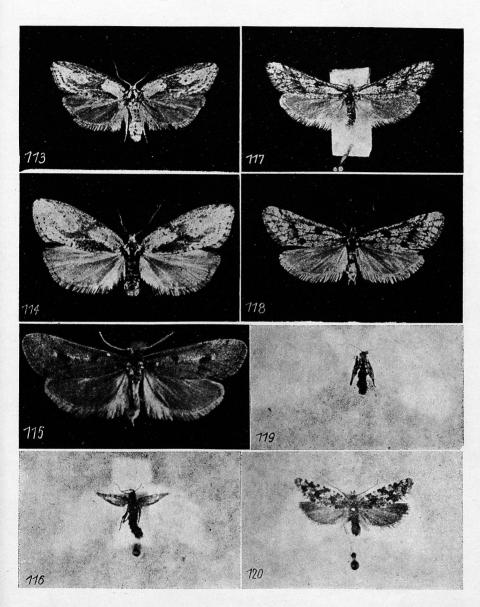


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## Plate XXXI

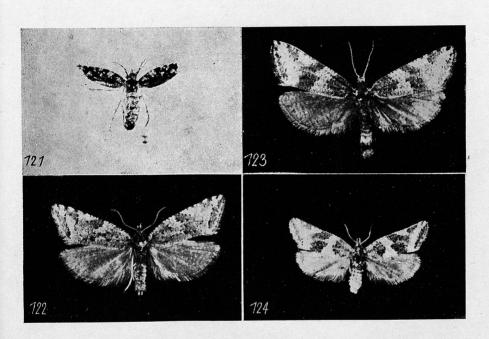
- Fig. 113. Doloploca punctulana (SCHIFF. & DEN.). "Fünfkirchen".
- Fig. 114. Doloploca punctulana (SCHIFF. & DEN.). "Ofen".
- Fig. 115. Exapate congelatella (CLERCK). "Morszyn" (Western Ukraine). J.
- Fig. 116. Exapate congelatella (CLERCK). Wrocław, 5 XI [18]94, Q.
- Fig. 117. Exapate duratella HEYD. "Rhaetia", 3.
- Fig. 118. Exapate duratella HEYD. "Engadin, 1872, Maria Silo, MEYRICK".
- Fig. 119. Exapate duratella Heyd. "Rhaetia", φ.
- Fig. 120. Euledereria alpicolana (FRÖL.). "Engadin, Samaden, VII 1870", J.



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# Plate XXXII

- Fig. 121. Euledereria alpicolana (FRÖL.). "Engadin, Samaden, VII 1870", Q.
- Fig. 122. Trachysmia rigana (Sodoff.). "Helvet m., Engadin, VII 1872".
- Fig. 123. Trachysmia rigana (Sodoff.). "Hoherfels, 1885".
- Fig. 124. Trachysmia rigana (Sodoff.). "Austria, Wien, Kr., 1886".



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## Plate XXXIII

Fig. 125. Antenna of Oxypteron impar STGR.

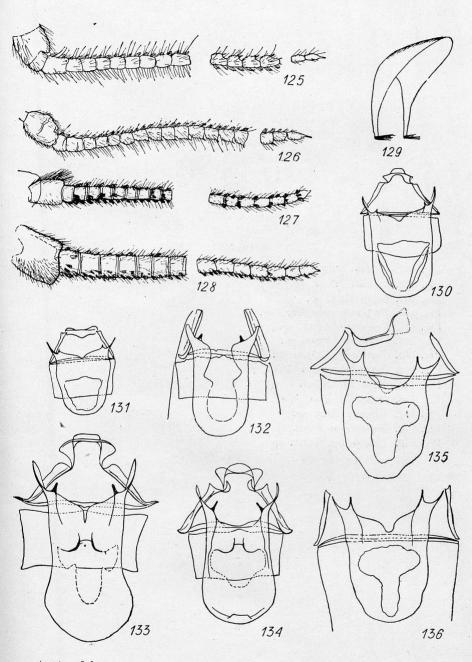
Fig. 126. Antenna of Oxypteron politum (WLSGHM.).

Fig. 127. Antenna of Trachysmia rigana (Sodoff.).

Fig. 128. Antenna of Euledereria alpicolana (FRÖL.).

Fig. 129. Mensis dorsalis of Olindia schumacherana (FABR.).

Fig. 130-136. Tympanal organs of Cnephasiini.



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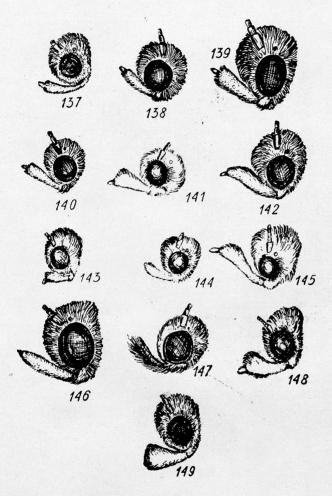
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## Plate XXXIV

## Head

- Fig. 137. Olindia GUEN. sp.
- Fig. 138. Isotrias MEYR. sp.
- Fig. 139. Eulia HBN. sp.
- Fig. 140. Propiromorpha OBR. sp.
- Fig. 141. Cnephasia Curt. sp.
- Fig. 142. Oxypteron STGR. sp.
- Fig. 143. Tortricodes GUEN. sp.
- Fig. 144. Neosphaleroptera RÉAL sp.
- Fig. 145. Eana BILLB. sp.
- Fig. 146. Doloploca HBN. sp.
- Fig. 147. Exapate HBN. sp.
- Fig. 148. Euledereria Fern. sp.
- Fig. 149. Trachysmia GUEN. sp.



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## Plate XXXV

## Venation of the wings\*)

Fig. 150. Olindia Guen. sp.

Fig. 151. Isotrias MEYR. sp.

Fig. 152. Eulia HBN. sp.

Fig. 153. Propiromorpha OBR. sp.

Fig. 154. Cnephasia Curt. sp.

Fig. 155. Oxypteron STGR. sp.

Fig. 156. Tortricodes Guen. sp.

Fig. 157. Neosphaleroptera Réal sp.

Fig. 158. Eana BILLB. sp.

Fig. 159. Doloploca HBN: sp.

Fig. 160. Exapate Hbn. sp.  $\Im$ .

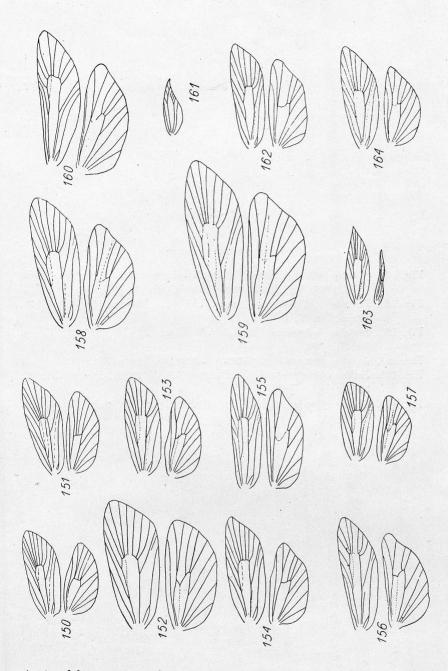
Fig. 161. Exapate HBN. sp. ♀.

Fig. 162. Euledereria FERN. sp. 3.

Fig. 163. Euledereria Fern. sp. ♀.

Fig. 164. Trachysmia Guen. sp.

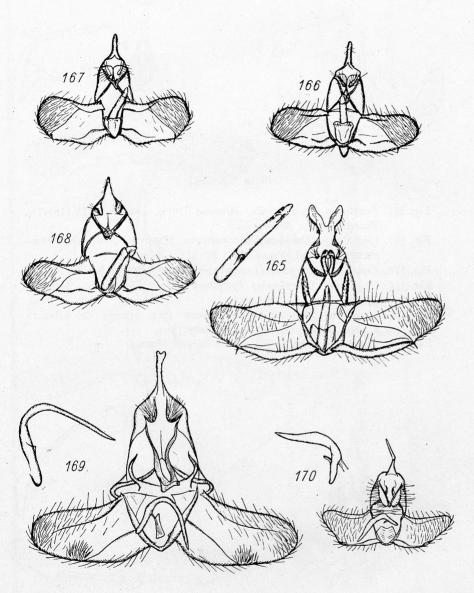
<sup>\*)</sup> Figs. 150—154, 156—164 after Obraztsov



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#### Plate XXXVI

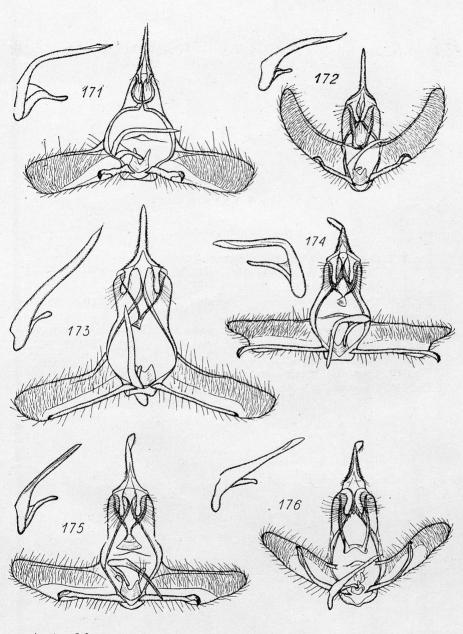
- Fig. 165. Olindia schumacherana (FABR.). "Zawiercie, Chełmowa Góra, 7 VI 1937, leg. MASŁOWSKI", Praep. Nr. T.: 308.
- Fig. 166. Isotrias rectifasciana (HAW.). "Favorita, Baden, 30 V [18]84", Praep. Nr. T: 300.
- Fig. 167. Isotrias hybridana (Hbn.). "Mödling, 12 VI [18]93", Praep. Nr. T.: 302.
- Fig. 168. Isotrias stramentana (GUEN.). "Angers", Praep. Nr.: 3235.
- Fig. 169. Eulia ministrana (L.). "Dulowa, 11 VI 1938", Praep. Nr. T.: 3226.
- Fig. 170. Propiromorpha rhodophana (H.-S.). "Sardinia m.", Praep. Nr. T.: 5260.



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#### Plate XXXVII

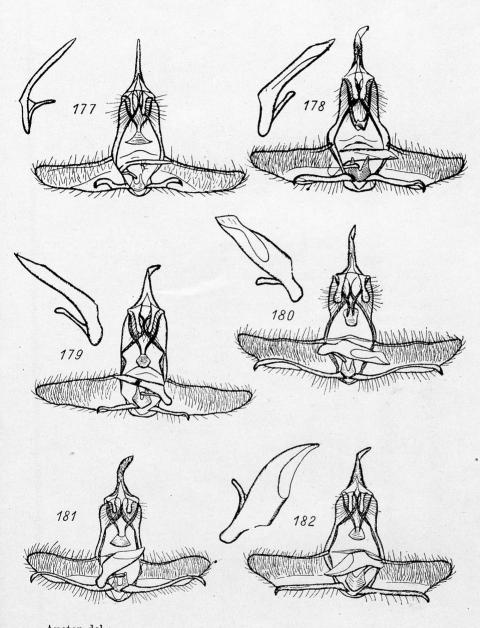
- Fig. 171. Cnephasia (Cnephasiella) abrasana (Dup.). "Attica, 17 IV [18]67", Praep. Nr. T.: 5078.
- Fig. 172. Cnephasia (Cnephasiella) incertana (TREIT.). "Coll. KLEMEN-SIEWICZ Poland, Praep. Nr.: K. 21".
- Fig. 173. Cnephasia (Cnephasia) cinareana Chrét. "Praep. Nr. T.: 5229".
- Fig. 174. Cnephasia (Cnephasia) sareptana sp. n. "Rossia m., Sarepta, 1867", Praep. Nr. T.: 81.
- Fig. 175. Cnephasia (Cnephasia) alfacarana RAZ. "Sierra de Alfacar, m. 80", Praep. Nr. T.: 5198, Paratypus,
- Fig. 176. Cnephasia (Cnephasia) cupressivorana (STGR.).



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#### Plate XXXVIII

- Fig. 177. Cnephasia (Cnephasia) laetana (Stgr.). "Gredos, Garg. Pozas, Cast. 1900 m, 15 VII 1934, coll. M. Reisser, Wien", Praep. H. G. Amsel: GU.: 3072.
- Fig. 178. Cnephasia (Cnephasia) communana (H.-S.). "H.-Sch. Typus", Praep. Nr. T.: 5009.
- Fig. 179. Cnephasia (Cnephasia) parnassicola Raz. "Parnass", Holotypus.
- Fig. 180. Cnephasia (Cnephasia) alticolana (H.-S.). "Rytro, 7 VII 1897, coll. F. Schille".
- Fig. 181. Cnephasia (Cnephasia) virgaureana (TR.). "Klaksfen".
- Fig. 182. Cnephasia (Cnephasia) virgaureana (TR.). Poland.

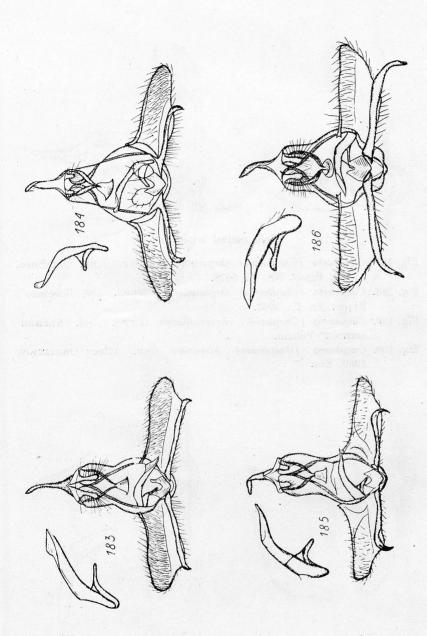


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#### Plate XXXIX

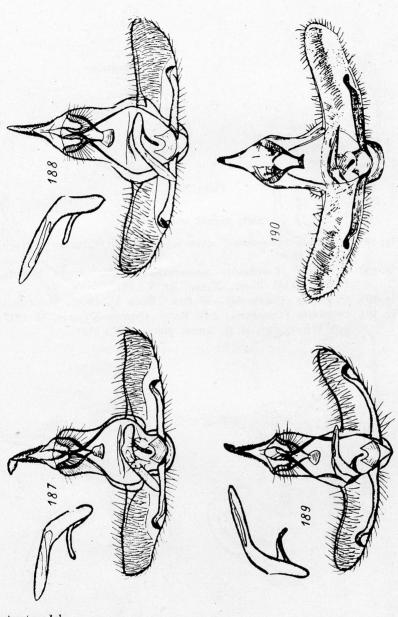
- Fig. 183. Cnephasia (Cnephasia) microstrigana RAZ. "Sn. Ildefonso", Praep. Nr. T.: 5222, Paratypus.
- Fig. 184. Cnephasia (Cnephasia) bleszyńskii Toll. "Duszniki (Sudety), 1938" Holotype.
- Fig. 185. Cnephasia (Cnephasia) pascuana (Hbn.). "coll. Klemensiewicz", Poland.
- Fig. 186. Cnephasia (Cnephasia) genitalana (P. & M.). "coll. Inst. Zool. PAN, Kraków", Poland.



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# Plate XL

- Fig. 187. Cnephasia (Cnephasia) chrysantheana (Dup.). "Sn. Ildefonso, 31 V", Praep. Nr. T.: 5078.
- Fig. 188. Cnephasia (Cnephasia) chrysantheana (Dup.). "Sn Ildefonso", Praep. Nr. T.: 5063.
- Fig. 189. Cnephasia (Cnephasia) chrysantheana (Dup.). "coll. Klemensiewicz" Poland.
- Fig. 190. Cnephasia (Cnephasia) hispanica Obr. After Obraztsov, 1950, Eos.

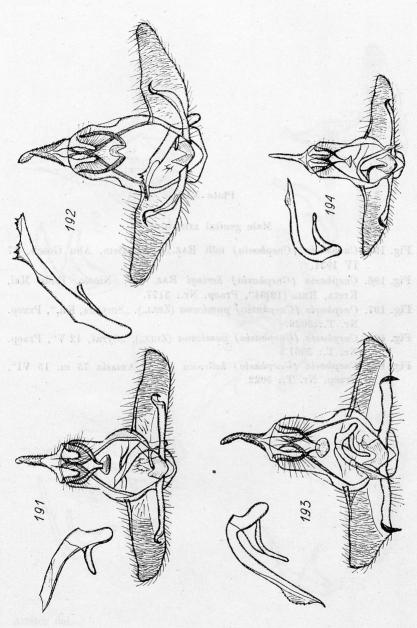


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### Plate XLI

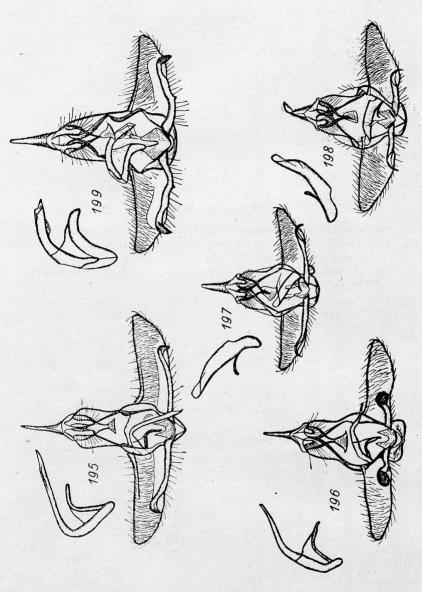
- Fig. 191. Cnephasia (Cnephasia) octomaculana Steph. "Paisley", Praep. Nr. T.: 5506.
- Fig. 192. Cnephasia (Cnephasia) conspersana Dougl. "Sierra Nevada, 13 VII [18]80, KORB. "Praep. Nr. T.: 5197.
- Fig. 193. Cnephasia (Cnephasia) tolli RAZ. "Haifa IV 1900", Holotypus. Fig. 194. Cnephasia (Cnephasia) tolli RAZ. "Cyprus, Kyrenia, II 1947, coll. Wiltshire", H. G. Amsel praep.: GU.: 3151.



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#### Plate XLII

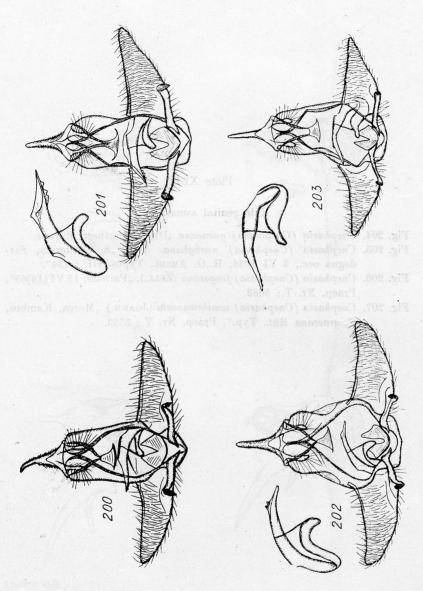
- Fig. 195. Cnephasia (Cnephasia) tolli RAZ. "Jerusalem, Abu Gosch, 17 IV 1931.
- Fig. 196. Cnephasia (Cnephasia) heringi RAZ. "St. Nicolo, Ende Mai, Kreta, RBL. [19]04", Praep. Nr.: 3177.
- Fig. 197. Cnephasia (Cnephasia) pumicana (Zell.). "Smyrna, Kr.", Praep. Nr. T.: 5028.
- Fig. 198. Cnephasia (Cnephasia) pumicana (Zell.). "Syrat, 12 V", Praep. Nr. T.: 5061.
- Fig. 199. Cnephasia (Cnephasia) hellenica OBR. "Amasia 75 m. 15 VI", Praep. Nr. T.: 5022.



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### Plate XLIII

- Fig. 200. Cnephasia (Cnephasia) longana (HAW.). "Hamburg".
- Fig. 201. Cnephasia (Cnephasia) longana f. cadizensis f. nov. "Hispania, Cadiz, 1888", Praep. Nr. T.: 40.
- Fig. 202. Cnephasia (Cnephasia) longana (HAW.). "Dalmatia, Pelagosa", Praep. Nr. T.: 5562.
- Fig. 203. Cnephasia (Cnephasia) bizensis REAL. "Lanjaron", Praep. Nr. T.: 5168.

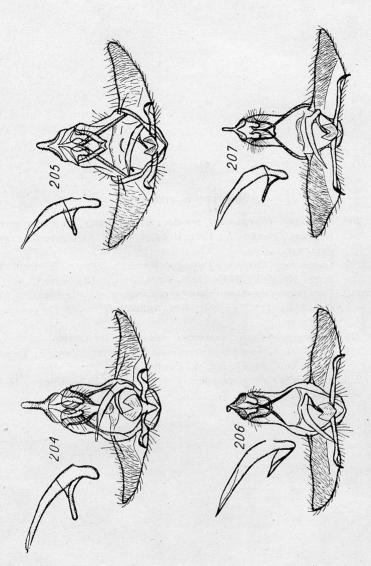


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### Plate XLIV

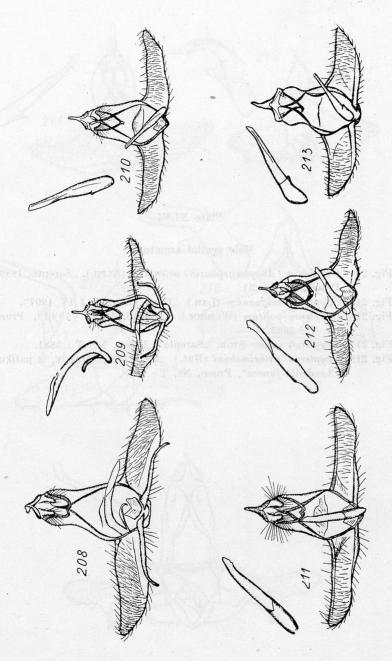
- Fig. 204. Cnephasia (Cnephasia) gueneana (Dup.). Southern Europe.
- Fig. 205. Cnephasia (Cnephasia) nuraghana Ams. "S. Catherina, Sardegna occ., 3 VI 1936, H. G. AMSEL, Typus, GU.: 134".
- Fig. 206. Cnephasia (Cnephasia) fragosana (Zell.). "Parnass, 15 VI [18]65", Praep. Nr. T.: 5083.
- Fig. 207. Cnephasia (Cnephasia) semibrunneata (Joann.) "Morea, Kambos, C. graecana RBL. Typ.", Praep. Nr. T.: 5553.



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#### Plate XLV

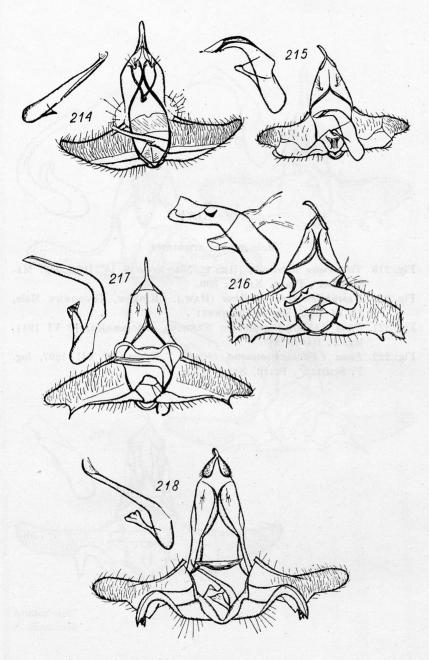
- Fig. 208. Cnephasia (Cnephasia) semibrunneata (Joann.). "Morea merid., Kambos Taygetos, VI 1901, Holz, Type' 02, punicana Z., v. graecana RBL.".
- Fig. 209. Cnephasia (Cnephasia) tyrrhaenica Ams. "Porto Santoru, Sardegna or., 8 VI 1936, H. G. Amsel, GU.: 133, Typus".
- Fig. 210. Cnephasia (Anoplocnephasia) minima sp. n. "Herzegovina, Mostar 8 VI 1912, ex coll. Schawerda, GU.: 3053" (praep. H. G. AMSEL).
- Fig. 211. Cnephasia (Anoplocnephasia) sedana (Const.). Alps.
- Fig. 212. Cnephasia (Anoplocnephasia) heinemanni OBR. "Parco N. Abruzzo, Pescaseroli, 24 VI, leg. A. Fiori", Praep. Nr. T.: 6905.
- Fig. 213. Cnephasia (Anoplocnephasia) orientana (Alph.). "Odessa, 14 VII 1919", Praep. Nr. T.: 3801.



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#### Plate XLVI

- Fig. 214. Cnephasia (Anoplocnephasia) orientana (Alph.). "Sarepta, 1889", Praep. Nr. T.: 31.
- Fig. 215. Oxypteron exiguanum (LAH.). "Cors. Palermo, 4 IV 1907".
- Fig. 216. Oxypteron politum (WLSGHM.). "Madrid, 19 IX [19]01", Praep. Nr. T.: 5883.
- Fig. 217. Oxypteron impar Stgr. "Sarepta", Praep. Nr. T.: 5881.
- Fig. 218. Oxypteron wrtheimsteini (RBL.). "IX [1]931, RJABOV, iz patikow Chondrilla juncca", Praep. Nr. T.: 6668.

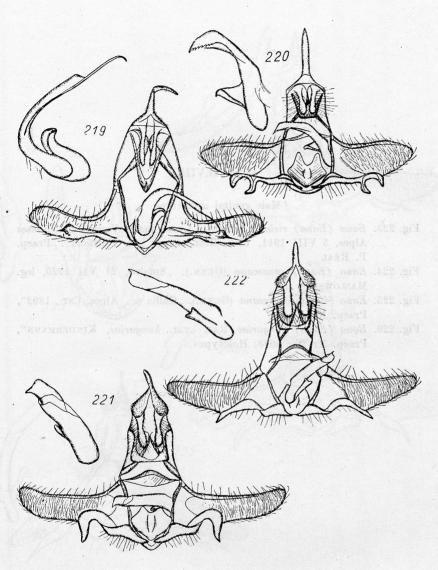


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#### Plate XLVII

- Fig. 219. Tortricodes tortricella (Hbn.). "Zawiercie 9 IV 1935, leg. Masłowski", Praep. Nr. T.: 306.
- Fig. 220. Neosphaleroptera nubilana (HAW.). "Kraków, Bronowice Małe, 15 VI 1952, leg. J. RAZOWSKI".
- Fig. 221. Eana (Ablabia) argentana (Clerck). "Szczawnica, 10 VI 1944, leg. J. Razowski".
- Fig. 222. Eana (Ablabia) osseana (Scop.). "Rytro, 10 VII 1897, leg. F. Schille", Praep. Nr. P.: 253.

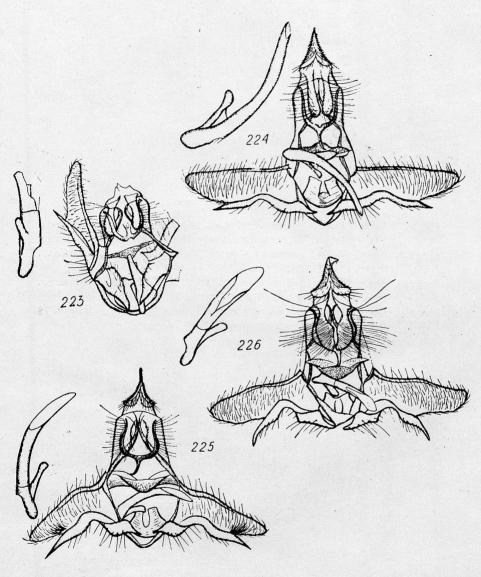


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### Plate XLVIII

- Fig. 223. Eana (Eana) rielana (Réal). "Lyon, male, Venant des Basses Alpes, 5 VIII ·1911, coll. RIEL, oryg. nec Penziana". Praep. P. Réal
- Fig. 224. Eana (Eana) canescana (GUEN.). "Smoleń, 21 VII 1929, leg. Masłowski".
- Fig. 225. Eana (Eana) canescana (Guen.). "Gallia m., Alpes, Cst., 1892", Praep. Nr. T.: 1.
- Fig. 226. Eana (Eana) hungariae RAZ. "var. hungariae, Kindermann", Praep. Nr. T.: 5048, Holotypus.

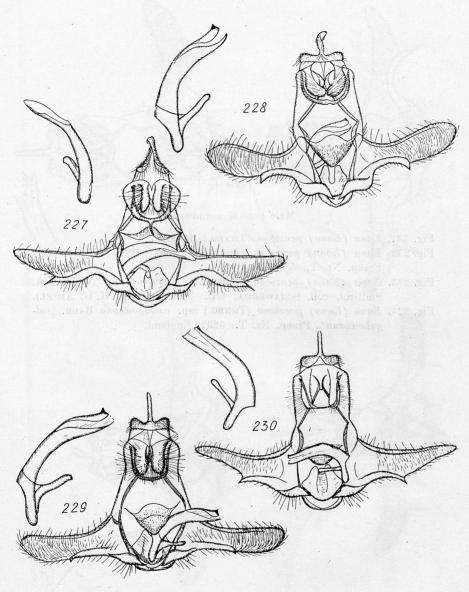


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#### Plate XLIX

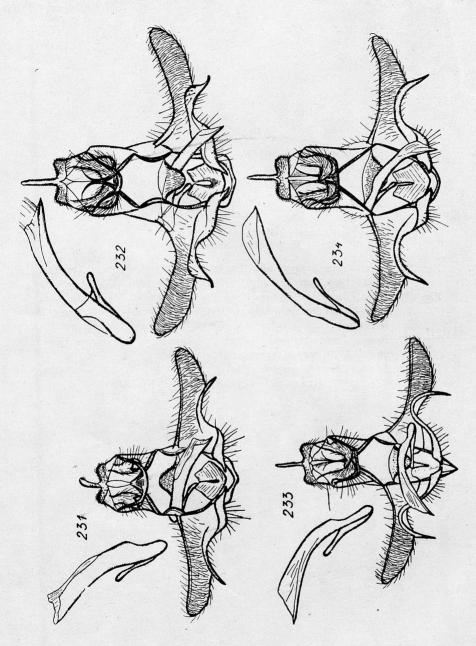
- Fig. 227. Eana (Eana) pyrenaica (Toll). "Hautes Pyrenées, Cauterets, VII 1890, leg. T. Seebold", Praep. Nr.: 1797 (praep. S. Toll).
- Fig. 228. Eana (Eana) nervana (Joann.). "S. Ildefonso, Escalera", Praep. Nr. T.: 5521.
- Fig. 229. Eana (Eana) italica (OBR.). "Parco N. Abruzzo, Pascaseroli, 14 VII 1949, leg. A. FIORI", Praep. Nr. T.: 1011.
- Fig. 230. Eana (Eana) cottiana (CHRÉT.). Hautes Alpes, La Bassée 12 VIII CLEU", GU.: 3029 (praep. H. G. AMSEL).



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### Plate L

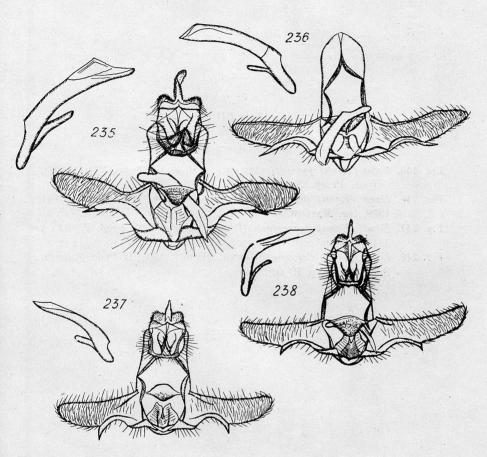
- Fig. 231. Eana (Eana) penziana (THNBG.). Poland.
- Fig. 232. Eana (Eana) penziana (THNBG.). "Unst. 1895, JJFX King", Praep. Nr. T.: 5519.
- Fig. 233. Eana (Eana) penziana (THNBG.) f. amseli f. n. "Weidbruck, Südtirol, coll. Schawerda, GU.: 3071" (Praep. H. G. AMSEL).
- Fig. 234. Eana (Eana) penziana (THNBG.) ssp. colquhounana BARR. "colquhounana", Praep. Nr. T.: 5232, England.



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### Plate LI

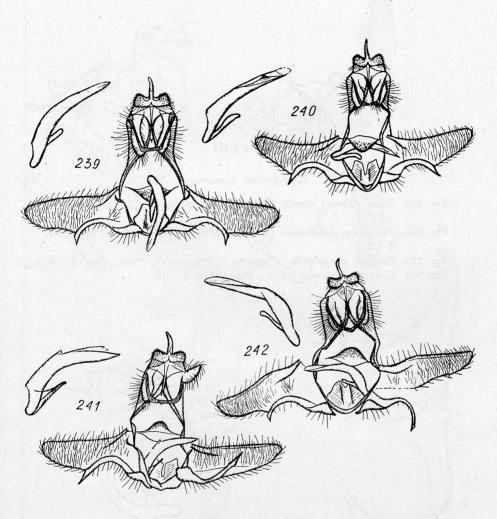
- Fig. 235. Eana (Eana) penziana (Thnbg.) ssp. fiorii ssp. n. "Abruzzo, 2 VII 1924, leg. A. Fiori", Praep. Nr. T.: 1013.
- Fig. 236. Eana (Eana) viridescens RBL. "N. Kaukasus, fl. Zeja, Alp. reg., 8 VIII 1931, ex coll. Rjabov", GU.: 3073 (Praep. H. G. AMSEL), Paratype.
- Fig. 237. Eana (Eana) incanana (Steph.). "Zawiercie, Chełmowa Góra, 26 VI 1929, leg. Masłowski".
- Fig. 238. Eana (Eana) nevadensis (RBL.). "Sierra Nevada, 1500—2000 m, VII [19]27, BUBAC[EK], Type A.", Praep. Nr.: 3183



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### Plate LII

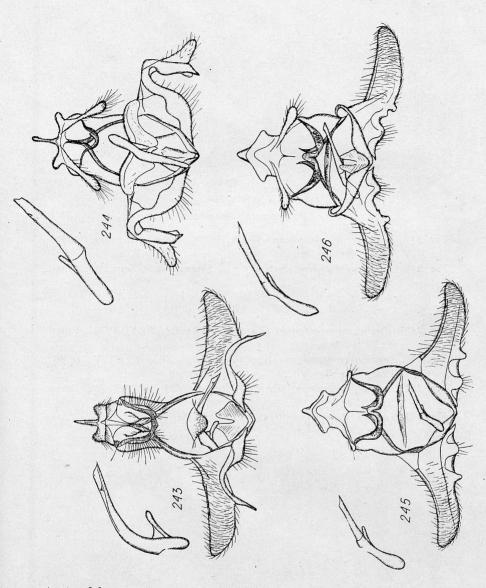
- Fig. 239. Eana (Eana) joannisi (Schaw.). "Corse, M. Ceopo, VII [19]29", Cotype, Praep. Nr. T.: 5557.
- Fig. 240. Eana (Eana) derivana (Lah.). "Kromołów, Kielkowice, 4 VII 1939, leg. Masłowski".
- Fig. 241. Eana (Eana) cyanescana (RÉAL). "H-Type, &, Prép. P. RÉAL, 334, Museum coll. Dumont".
- Fig. 242. Eana (Eana) clercana (JOANN.). "Ecully, 1905, H-Type, Museum Paris, 36, Prép Réal".



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# Plate LIII

- Fig. 243. Eana (Eana) viardi (RÉAL). "Valesia, Andg.", Praep. Nr. T.: 5171.
- Fig. 244. Doloploca punctulana (Den. & Schiff.). "Palatin", Praep. Nr. T.: 3.
- Fig. 245. Exapate congelatella (Clerck). "Bydgoszcz", Praep. Nr. T.: 8.
- Fig. 246. Exapate duratella HEYD., Praep. Nr. T.: 10.



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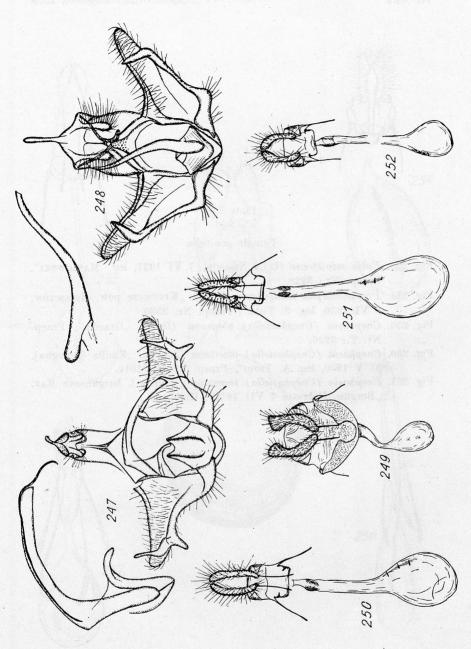
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#### Plate LIV

## Male genital armatures

- Fig. 247. Euledereria alpicolana (FRÖL.). "Samaden, Engadin, 1870", Praep. Nr. T.: 80.
- Fig. 248. Trachysmia rigana (Sodoff.). "Riffleberg, near Zermatt", Praep. Nr. T.:

- Fig. 249. Olindia schumacherana (FABR.). "Zawiercie, 26 VI 1936, "Praep. Nr. T.: 309.
- Fig. 250. Isotrias rectifasciana (HAW.). "Favorita, Baden, 17 V [18]86", Praep. Nr. T.: 301.
- Fig. 251. *Isotrias hybridana* (HBN.). "Parnass, 21 VI [18]66", Praep. Nr.: 3234.
- Fig. 252. Isotrias stramentana (Guen.). Praep. Nr.: 3236.

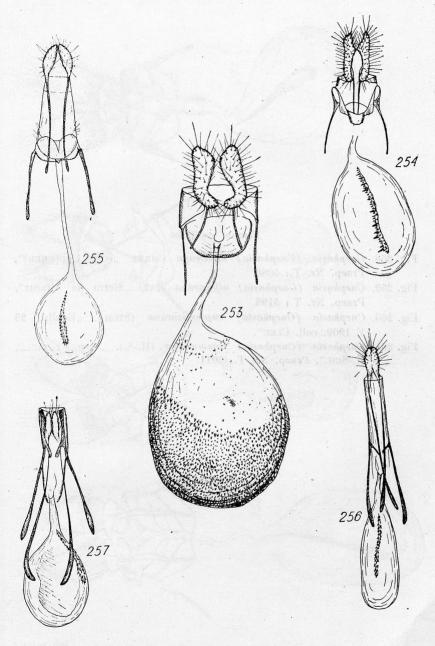


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#### Plate LV

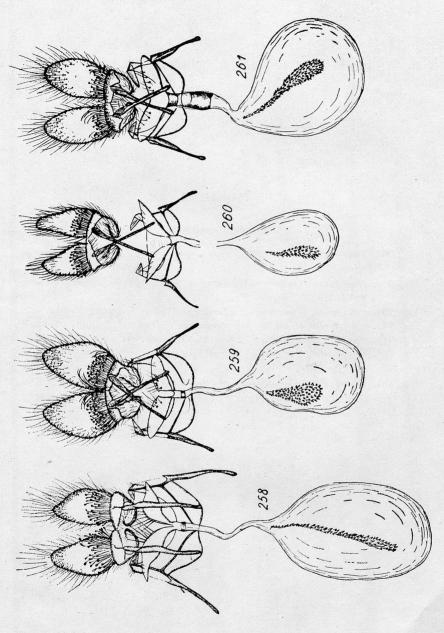
- Fig. 253. Eulia ministrana (L.). "Nierada, 7 VI 1937, leg. Masłowski", Praep. Nr.: 3228.
- Fig. 254. Propiromorpha rhodophana (H.-S.). "Krzywcze pow. Borszczów, 6 VI 1936, leg. S. Toll", Praep. Nr. 2580.
- Fig. 255. Cnephasia (Cnephasiella) abrasana (Dup.). "Graecia", Praep. Nr. T.: 5226.
- Fig. 256. Cnephasia (Cnephasiella) incertana (TREIT.). "Emilia [Bologna], 31 V 1930, leg. A. Fiori", Praep. Nr. T.: 1012.
- Fig. 257. Cnephasia (Cnephasiella) incertana (TREIT.) f. burgüniana RAZ. "Bergün, Helvetia 7 VII 1872", Holotype.



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## Plate LVI

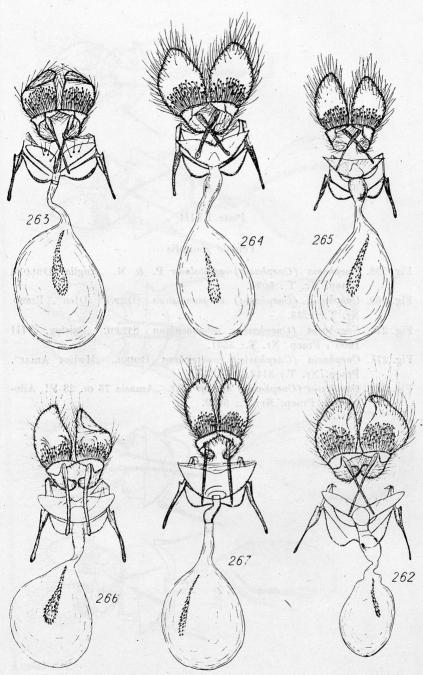
- Fig. 258. Cnephasia (Cnephasia) cinareana Chrét. "coll. Led[erer]", Praep. Nr. T.: 5086.
- Fig. 259. Cnephasia (Cnephasia) alfacarana RAZ. "Sierra de Alfacar", Praep. Nr. T.: 5196.
- Fig. 260. Cnephasia (Cnephasia) cupressivorana (Stgr.). "Ecully, 25 V 1909, coll. Cleu".
- Fig. 261. Cnephasia (Cnephasia) communana (H.-S.). "Typ., r. m.  $\updownarrow$ , H.-Sch.", Praep. Nr. T.: 5011.



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## Plate LVII

- Fig. 262. Cnephasia (Cnephasia) parnassicola RAZ. "Graecia", Allotype, Praep. Nr. T.: 5059.
- Fig. 263. Cnephasia (Cnephasia) laetana (STGR.). "Gredos, Cast., 1900 m, 9 VII 1934", Praep. Nr.: 3167.
- Fig. 264. Cnephasia (Cnephasia) alticolana (H.-S.). Kraków.
- Fig. 265. Cnephasia (Cnephasia) virgaureana (TREIT.). "Pilica, Smoleń. 23 VII 1933", Praep. Nr.: 191 (MASŁOWSKI).
- Fig. 266. Cnephasia (Cnephasia) microstrigana RAZ. "Sn Ildefonso", Praep. Nr. T.: 5016.
- Fig. 267. Cnephasia (Cnephasia) pascuana (HBN.). "Schl.-Holst., Kiel, 3 VII 1938, leg. MEDER, Chrys. leuc.", Praep. Nr. T.: 7552.



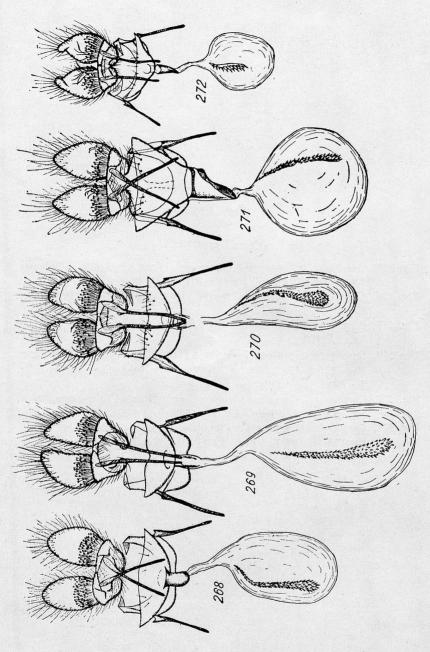
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#### Plate LVIII

- Fig. 268. Cnephasia (Cnephasia) genitalana P. & M. "Anglia, DBLD.", Praep. Nr. T.: 5094.
- Fig. 269. Cnephasia (Cnephasia) chrysantheana (Dup.). "Ofen", Praep. Nr. T.: 5233.
- Fig. 270. Cnephasia (Cnephasia) octomaculana Steph. "Paisley, VIII 1900", Praep. Nr. T.: 5531.
- Fig. 271. Cnephasia (Cnephasia) conspersana Dougl. "Mediez Amar", Praep. Nr. T.: 5143.
- Fig. 272. Cnephasia (Cnephasia) heringi RAZ. "Amasia 75 m, 23 VI, Allotypus", Praep. Nr. T.: 5039.



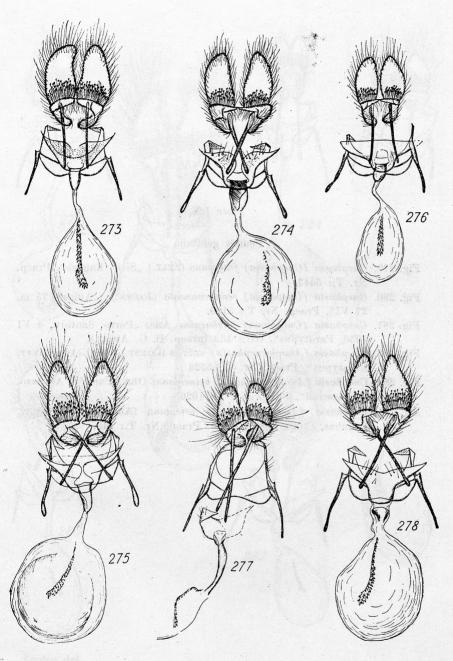
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### Plate LIX

# Female genitalia

- Fig. 273. Cnephasia (Cnephasia) pumicana (Zell.). "Emilia, Bologna, 10 VI 1923", Praep. Nr. T.: 7020.
- Fig. 274. Cnephasia (Cnephasia) longana (HBW.). "Spandau", Praep. Nr. T.: 155.
- Fig. 275. Cnephasia (Cnephasia) bizensis Réal. "Hispan, 290", Praep. Nr. T.: 120.
- Fig. 276. Cnephasia (Cnephasia) klimeschi RAZ. "Macedonia, Stari Dojran, 10—19 VI 1955, leg. J. Klimesch, Holotypus", Praep. Nr. T.: 6902.
- Fig. 277. Cnephasia (Cnephasia) taurominana RAZ. "Tauromina, Sicil, leg. WAGNER", Praep. Nr. T.: 5536.
- Fig. 278. Cnephasia (Cnephasia) gueneana (Dup.). "St. Nicolo, Kreta, Ende Mai [19]04, RBL.", Praep. Nr. T.: 5537.

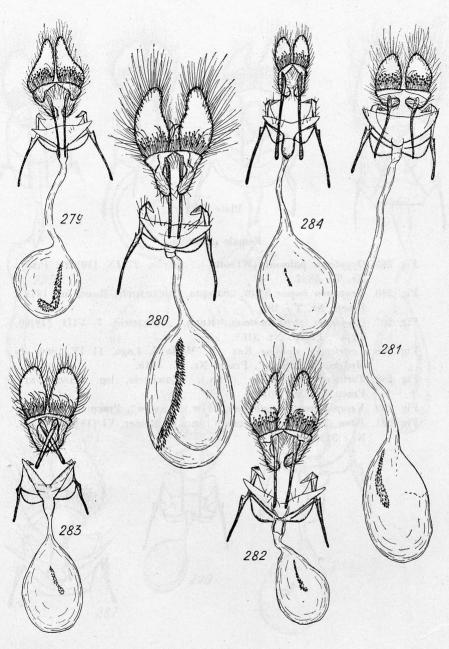
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### Plate LX

- Fig. 279. Cnephasia (Cnephasia) fragosana (Zell.) "Sicil. Ragusa", Praep. Nr. T.: 5543.
- Fig. 280. Cnephasia (Cnephasia) semibrunneata (Joann.). "Amasia 75 m, 27 VI", Praep. Nr. T.: 5139.
- Fig. 281. Cnephasia (Cnephasia) tyrrhaenica Ams. "Porto Santoru, 8 VI 1936, Paratypus", GU.: 132 (praep. H. G. Amsel).
- Fig. 282. Cnephasia (Anoplocnephasia) sedana (Const.).,, Gall.-Alp. Const. Paratypus", Praep. Nr. T.: 5528.
- Fig. 283. Cnephasia (Anoplocnephasia) heinemanni Obr. "Parco N. Abruzzo, Pascasseroli", Praep. Nr. T.: 1026.
- Fig. 284. Cnephasia (Anoplocnephasia) orientana (Alph.). "Transcauc., Ordubas, Chr[Istoph], 1893", Praep. Nr. T.: 149.

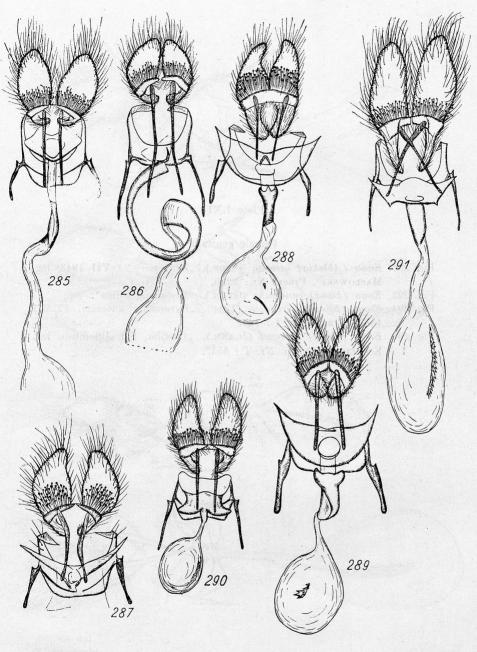


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- Fig. 285. Oxypteron palmoni (Wlsghm.). "Rivas, 27 IX [19]02", Praep. Nr. T.: 5882.
- Fig. 286. Oxypteron impar Stgr. "Sarepta, Chr[iistoph], Rossia m., 1872", Praep, Nr. T.: 298.
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- Fig. 291. Eana (Ablabia) argentana (CLERCK). "Reiner, VI [18]89", Praef. Nr.: 3239.

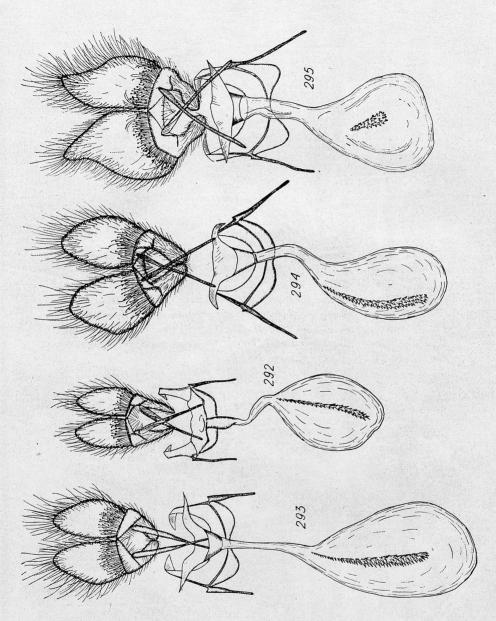


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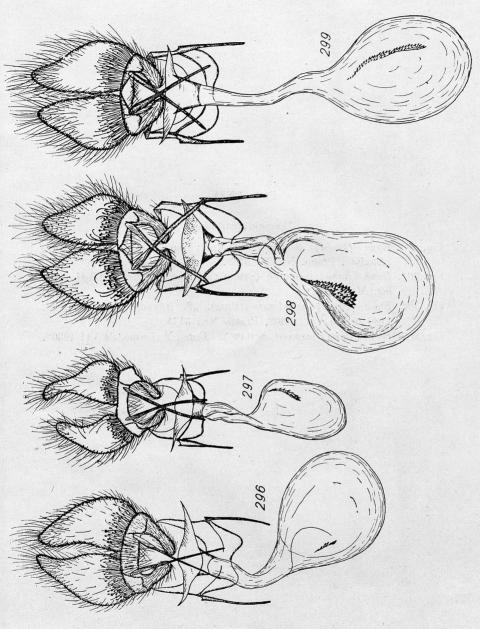
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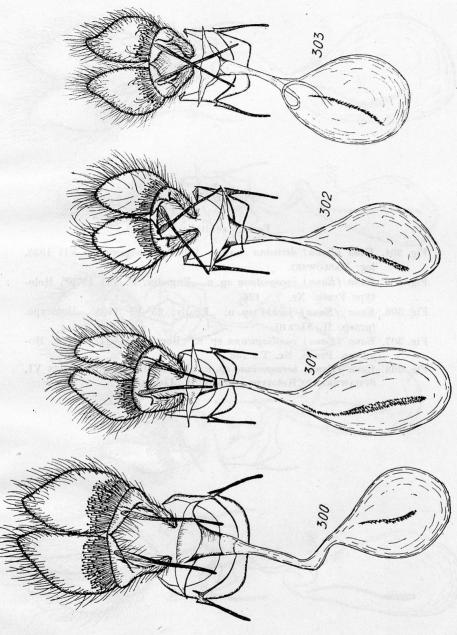


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#### Plate LXIV

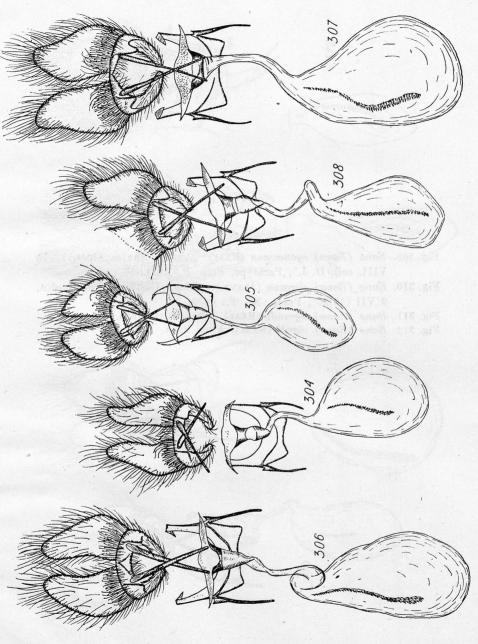
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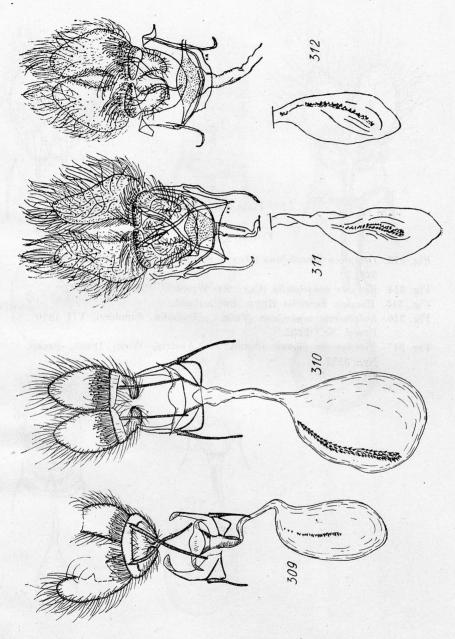


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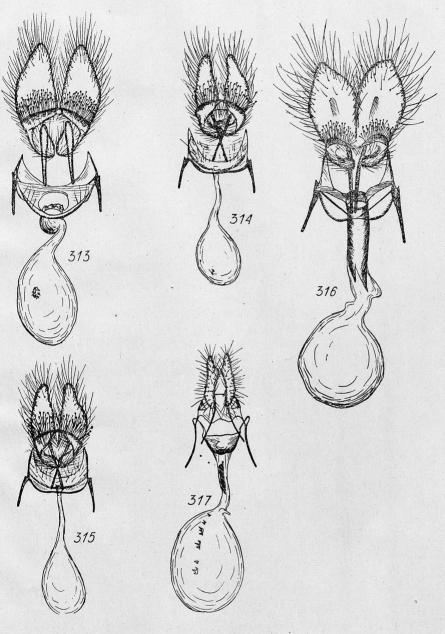
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